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Original Department.

On the Treatment of Anæmia.

A CLINICAL LECTURE BY PROF. DUJARDIN-BEAUMETZ.*

GENTLEMEN: There are no diseases more common than the various forms of anæmia, and this age of ours is especially the age of anæmic patients. The treatment of anæmia is, therefore, worthy of your serious, earnest study.

Ever since Varandal, professor of the faculty of Montpellier, in 1620, introduced the term chlorosis into pathology, and Daumius a century later wrote the word anæmia, these two affections have been the subject of long discussions, some authorities making of them two distinct diseases, others including them in the same description, and successive attempts have been made to found these opposing views on arguments drawn from clinical medicine and on arguments drawn from the chemical examination of the blood.*

*Translated from advance sheets for the THERAPEUTIC GAZETTE, by E. P. Hurd, M. D., Newburyport, Mass.

*If the ancients understood anæmia, they have said little about it in their writings. In Hippocrates indeed the word *anajima* is found, and is applied to persons in a miserable and exsanguinated condition. Galen makes no mention of anæmia.

In 1620 Varandal in his treatise on Diseases of Women, made mention of the pale color of certain patients, and proposed for this condition the word chlorosis. In 1706 Euth proposed the name oligæmia to characterize the lack of blood. In 1732 for the first time we find the word *anæmia* in the inaugural thesis of Daumius, Mich. Alberti being dean of the faculty. Then a few years later appeared the thesis of Kutter and Behr on anæmia. Notwithstanding these works, anæmia was exceptionally admitted in France. Bouillaud in 1833 pointed out the anæmic souffles of the heart and blood vessels. Piorry calle attention to local and general anæmias; finally the labors o modern hæmatology enabled us better to understand anæmia.

Then came the numerous divisions corresponding to the varieties of anæmia which were being studied, and an attem

The incessant progress which the physical sciences and chemistry have made in the study of the blood, enables us at the present day to know the veritable nature of the anæmias. At first characterized and described as a diminution in the whole mass of the blood, the anæmias were subsequently considered as resulting from modifications in the divers constituent elements of that fluid. Hence in correspondence with the ingredient lacking, or in excess, different varieties of anæmia were established; essential globular anæmia, hydræmic anæmia, polyæmic anæmia, (poly-anæmia) according as the globules alone were diminished in number or as there was predominance of the serous elements or even diminution in the proportion of albumen, such deficiency being indicated by the word desalbuminæmia, coined by Germain Sée.

To-day these distinctions ought to be abandoned, not because, irrespective of globular deficiency, these alterations in the constituent elements of the blood do not exist, but because they are variable and are not based on any very positive mathematical data. On the other hand, by reason of the discovery of processes which enable us not only to number the globules but to judge of their quality, we can by this very examination of the globules find a basis for the entire study of the anæmias. Here, moreover, it is to Professor Hayem that we are under obligations for the most important and decisive investigations on the characters of the blood in anæmic persons.

Constituted by a solid organic frame-work provided even, if we may accept the latest researches of Ranvier, with a spherical membrane, the red corpuscles circulate in large numbers in the blood current. Deprived of nuclei, at least, as a rule, except in the fœtus, having a distinct form with which you are all familiar, these red corpuscles have a chemical composition to-day well known. They are constituted by an albuminoid matter, globuline, and contain also lecithine, cholesterine and animal matters, but that which especially characterizes them is the presence of a complex azotized matter colored red, crystallizable, containing a notable proportion of iron, the oxyhæmoglobin.

This oxyhæmoglobin is the veritable factor of the respiratory power of the blood; it presents to spectral examination certain characteristic rays which I here show you in this drawing, and when it is deprived of its oxygen, it constitutes what is called hæmoglobin reduced, which offers (and this is an important point), a spectral appearance quite different, as you can judge on comparing the two figures which I place before you. Apart from this reduced hæmoglobin, oxyhæmoglobin gives rise to other products of decomposition, such as hæmatin, hæmochromogen hæmin and hæmatodin.

You know from what I told you in a previous lecture, the methods in vogue for ascertaining approximately the amount of hæmoglobin in a given quantity of blood.

Anæmia of every kind, resulting as it must from an affection localized in the red globules, it is absolutely necessary that you should have precise knowledge of the constitution of these globules and their evolution. Having finished the first part of my task, I come to the second, which concerns the evolution of the blood corpuscles.

Here, unfortunately, our data are less conclusive, and we are obliged to resort to conjectures. At the same time we know, according to Professor Hayem, that the red corpuscles come from those little brilliant bodies which you see in microscopical preparations of blood, and to which the name of hæmatoblasts has been given. But what is the source of these hæmatoblasts? Do they come, as Hayem thinks, from the lymphatic net-work? Or from the marrow of bones, as the German and Italian schools maintain? Or are they engendered in the interior of certain glands, as the liver and the spleen? We are quite ignorant, and while recognizing the fact that that there must be hæmatopoietic centres, we cannot at present definitely localize them. It is probable that the entire economy participates in the formation of hæmatoblasts.

The want of precise data concerning the origin of the blood globules, is a misfortune as far as therapeutics is concerned. In fact, the production of these hæmatoblasts is at the core of this whole question of the etiological treatment of the anæmias, and if we could know the exact point where the hæmatoblasts originate, it is to this point that all our therapeutic endeavors should be directed.

What we do know is that under the influence of bad conditions of alimentation, or by reason of deprivation of a plentiful supply of oxygen in the air of respiration, or even as a result of the absence of

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was made to establish between anæmia and chlorosis distinctions more or less precise, and based more particularly on the alterations of the serum and the alterations of the globules. Thus Germain Sée admits four types of chronic anæmia: oligæmia corresponding to a diminution in the whole mass of the blood; globular anæmia; hydræmia, characterized by augmentation of the watery principles of the serum; desalbuminæmia in which there is diminution in the proportion of albumen. Moreover he establishes a distinction between chlorosis and anæmia. He regards chlorosis as a globular anæmia, resulting from nutritive impoverishment entailed by the demands of the reproductive functions and of growth. Jaccoud thus distinguishes anæmia from chlorosis: In chlorosis the blood alteration is purely globular; it is an essential globular anæmia. In anæmia proper there is modification of the other constituent elements of the blood.

Under the head of anæmia we distinguish:

1. True or post hæmorrhagic anæmia.
2. Serous or polyæmic anæmia.
3. Albuminous or hydræmic anæmia.
4. Globular anæmia, or chlorosis.

Hayem has shown that in chlorosis the trouble is with the evolution and complete development of the red globules.

(Varandœus. De Morbis Mulierum, 1620, Lib. 1, ch. 1. *Daumius, Diss. Inaug Med. de Anæmia*, 1732. Kutter and Behr, opera, 1766 Bouillaud, Jour. hebd, 1833, t. ix, p. 578. Piorry, Traité des Alterations du Sang., Paris, 1836, p. 21. G. Sée, Leçons de Path. Experiment, Paris, 1867, p. 38 and 244, Jaccoud, Path Int, 1871, t. ii, p. 819. Hayem, On the Anatomical Characteristics of Blood in the Anæmias, Compt. Compt. Rend. de l. Acad. des Sc., July, 1876. Moriez, De la Chlorose th. d. agrégation, 1880).

†The number of these globules in the blood is estimated by Hayem as 5,000,000 per cubic millimetre. Their structure has been the object of numerous researches, the most important of which are those of Rollet and Ranvier. Rollet maintains that the corpuscles are deprived of envelope, and are constructed of a solid organic frame-work, soft and uncolored, which he calls stroma, and which imbibes hæmoglobin like a sponge. Ranvier insists that there is a membrane around them. Sappey affirms the existence of a nucleus in the human blood globule. Hayem has found this to exist exceptionally, and in particular in cases of leucocythæmia. To detect these nuclei you must have a special staining fluid, either iodo-ioduretted water or hæmatoxyline. (Rollet—Sitzungsbér der Wiener, Akad. der Wissensch, t. xlvi, May, 1862 Ranvier—Researches on the Elements of the Blood, Arch. de Physiol., 1874, p. 790. Havem—Nucleated Red Globules in the Blood of the Adult, Arch. de Phys., 1883, t. I., March 1st, 1883.)

sunlight, the production of blood corpuscles diminishes, and the corpuscles, touched in their vitality, do not attain their complete development. In other circumstances the original cause escapes us, and we see develop at certain periods of life those essential anæmias described under the name of chlorosis, and in which the hæmatopoietic centres seem primitively to have undergone some lesion. Oftener these troubles in the evolution of the globules are temporary, but there are others which are permanent; we give the name malignant or pernicious to these anæmias, and all our therapeutic efforts are impotent in these cases to communicate a new activity to the production of hæmatoblasts.

Whether we are concerned with symptomatic anæmia, with essential anæmia, or pernicious anæmia, it is always in the evolution of the corpuscles that we must place the first cause of the trouble, and to serve as a basis for our diagnosis of anæmia, and to measure the intensity of the evil, we ought always to refer ourselves to the three following particulars, as Hayem has shown:—What alterations have the globules undergone? What is their real number? What is their individual value?

This examination will be very easy for you if you follow the rules which I gave you in a previous lecture, and all that you have need of in order to carry them out, is a drop of your patient's blood. You will see then by the microscopic examination of the preparation, the form of the corpuscles, their number, and that of the hæmatoblasts; you will appreciate by this same examination, which should be a very thorough one, how important it is to combine the numerical examination of the globules with the qualitative estimation of the hæmoglobin, and always to compare the corpuscles under inspection with healthy corpuscles, that you may know their real value.

There exist, in fact, anæmias in which the number of globules is not diminished, and this shows that the word globular anæmia, taken in its most rigorous acceptation, is not always an appropriate word to designate impoverishment of the blood. But if by means of the hæmacytometer you are able to compare these globules with healthy globules, you will find a marked difference in their number. We have now in our hospital wards anæmic individuals, (advanced cases), who, by the simple enumeration of the globules, have from four to five millions, a figure almost normal, but which amounts to only two or three millions when the comparison is made with well-developed healthy globules. So that it is not enough to have a normal quantity, they must be healthy as well.

This microscopical examination will give you a good basis for prognosis. Whenever you see the hæmatoblasts in sufficient abundance, be persuaded that by reason of the conservation of the hæmatopoietic functions you will be enabled easily to cure your patient. If there be paucity of hæmatoblasts, you will have difficulty in bringing about restoration, and the difficulty will be insuperable if the hæmatoblasts be very few.

You will pardon these somewhat lengthy details on account of the importance of such investigations as these, investigations which, though as yet little known and employed, have completely modified the study of anæmia. I come now to the practical question before us, the treatment of the various forms of anæmia. The treatment of anæmia is, first, pharmaceutical; second, hygienic.

1. In the first rank of therapeutic agents we place iron, and this question of ferruginous preparations in the treatment of anæmia is one of the most interesting in therapeutics, and one which has awakened the most ardent discussions.

The first physicians who employed iron in anæmia were probably guided by the therapeutic rule called the law of similitudes, and selecting iron as the representative of force—placed, as it had been, under the patronage of Mars—they judged this metal to be indicated in diseases characterized by great depression of the vital forces.

In the middle of the seventeenth century Ferrein thus characterized the therapeutic properties of the ferruginous preparations: 1. Sunt temperantes; 2. Diluentes; 3, Solvunt et aperiunt; 4, Vi stomatica donantur; 5, Vi cathartica; 6, Vi astringente; 7. Diureticæ sunt.

These multiple properties were based only on observation, but an important discovery which had just been made at Bologna and at Venice by Galatti, by Menghini and by Badia, gave a much more powerful support to this ferruginous medication, since these physicians had just recognized the existence of iron in the blood; then more precise investigations proved the presence of iron in the red corpuscles, and in the oxy-hæmoglobin, which constitutes the most important part of these globules. As a result of this discovery iron came into such general use in anæmia that not a mother of family but of her own accord gave ferruginous preparations to her daughters when the appearance of pallor in the countenance indicated this medication—a custom which has prevailed to the present time.

At the same time, despite the popularity of the ferruginous medication, despite the constant multiplication of new preparations of iron, this question of the efficacy, and especially of the action of chalybeates is far from being solved and there are two ways of regarding the subject. Certain physiologists, emphasizing the fact of the presence of iron in the hæmoglobin, and deriving support from the labors of Prof. Hayem, insist that a course of iron preparations is essential to the cure of globular anæmia. Clinicians, on the other hand, reply that while fully recognizing the utility in certain cases of martial remedies, the latter, nevertheless, have no direct local action on the globules, and what action they have results from stimulation of the entire organism; that all hygienic and other means which improve nutrition and arouse the hæmatopoietic forces, arrive at the same result. In support of this view clinicians appeal to the numerous facts of chlorotic patients where martial preparations, continued for several years, have produced no effect, and where cure has at last been brought about by hydrotherapy, gymnastics, and especially by country air.

Till recently I have ranged myself on the side of the clinicians, but I acknowledge that since I have employed in the study of therapeutic results obtained, the scientific method of the enumeration of the globules, my opinion has been shaken, and within certain limits, which I shall fix presently, I am ready to endorse the claims of the partisans of the ferruginous medication.

What renders obscure this mode of operation

of chalybeates is that we are still ignorant of the pharmaco-dynamic action of this remedy daily employed, and that on many points relative to the absorption and elimination of this medicament, we are reduced to hypotheses.

As for absorption, the hypothesis of Scherpf is the most probable, who affirms that ferruginous preparation enter the blood under the form of a double salt. First they may be taken up by the stomach as a chloride, which on entering the serum is changed to an insoluble albuminate which is then rendered soluble by an excess of soda, constituting a double albuminate of iron and of soda. Or on the other hand this transformation into a soluble albuminate or peptonate may be effected in the intestine under the influence of the digestive fluids, and in this state it may be absorbed. But what has given place to the most controversy is the question relative to the elimination of iron.*

In fact the whole of the iron ingested seems to appear in the fæcal matters, and this has led the opponents of the ferruginous medication to affirm that iron does not undergo any change in the economy.

At the same time when we examine the question a little more carefully, we perceive that the iron which is found in the dejections comes not only from the iron introduced directly by the stomach, but also from the different intestinal secretions, the gastric juice, and especially from the bile, which contains iron in notable proportions. *A propos* of the presence of iron in the bile, I showed you, when addressing you on the functions of the liver, that Paganuzzi and Lussana had based on this fact a particular theory of the action of iron on the hæmatopoietic functions of the liver.*

It is then probable that the iron which is found in such abundance in the stools and in the intestinal secretions, comes not only from that which has been taken as medicine, and from the food, but also from the incessant modifications which the blood corpuscles undergo in the organism. But what is quite inexplicable, and altogether different from what we observe in the case of other medicaments, the quantity of iron found in the urine is little if at all increased, in whatever form the chalybeate may be administered, that is if we may rely on the experiments of Hamburger.

The method of administration of ferruginous medicines is almost exclusively by the alimentary canal. Nevertheless the past few years attempts have been made to introduce soluble iron preparations hypodermically, and even by the rectum. Neuss has recently experimented with subcutaneous injections of the pyrophosphate in solution of citrate of soda. Luton and J. M. Da Costa have administered the dialyzed iron in the same way, the quantity for hypodermic injection being fifteen to twenty drops. This preparation is said to cause no local irritation whatever. Chiamarelli has employed to advantage the ammonio-citrate, one grain to about fifteen drops of water, and claims that this is a good and safe preparation for hypodermic use.

Jaillet has recommended lavements of peptonate of iron, and I have myself practiced subcutaneous injections of the peptonates. These tentatives ought to be encouraged, for there are persons whose stomachs cannot support the martial preparations, and in these cases there will be an advantage in using the hypodermic or rectal method. At the same time it must be borne in mind that subcutaneous injections of the peptonate of iron are painful without however, being attended with the risk of grave local lesions.*

As for the preparations of iron which are adminministered by mouth, they are innumerable, and their number increases every day. They may be divided into the martial preparations properly so called, and the ferruginous waters.

The martial preparations are both soluble and insoluble, simple or compound. I cannot enumerate all. I will only mention the principal. Iron in substance has been used, the oxides and the sesquioxides, the ferrous as well as the ferric salts.

Iron in fine powder, iron filings, porphyrized or not, and the *ferrum redactum*, (or iron reduced by hydrogen or by electricity) represent the type of the insoluble preparations. Introduced into therapeutics by Quevenne, who recognized its ready solution in the gastric juice, this reduced iron has had and still has a great repute. Iron filings are also given in the form of powder, pills, dragees, or as iron chocolate.

Under the name of ethiops martial, and under that of aperient saffron of Mars, therapeutics utilizes the dark ferric oxide, and the hydrated sesquioxide, which serves as the basis of numerous complex preparations. Of these oxides there is one which enjoys great repute, at least on the advertising pages of medical journals; I allude to the dialyzed iron, which is a very unreliable preparation, if we may trust the conclusive experience of Bouchardt.†

*Scherpf, On the Absorption and Elimination of Iron, Wurtzburg, 1878.

*Tiedmann and Gmelin found, so to speak, the whole of the iron administered to subjects under experimentation, in the stools. Most of the secretions contain iron; the tears, saliva, the milk the digestive and intestinal secretion, the bile, etc. The gastric juice of a man according to Schmidt excretes three centigrams a day of iron, the bile four centigrams. Paganuzzi maintained that iron absorbed in the intestines penetrated to the cells of the liver, there stimulated the hæmatopoietic functions of this gland, and was eliminated by the bile to be again taken up by the intestine. Hayem affirms on the contrary that the iron which is found in the excretions does not find its way there till it has been made a part of the blood globules, and that it undergoes an incessant renewal in the economy. In dogs, nourished on aliments deprived of iron, this metal was found in notable quantity in the fæcal matters. (Hayem, Leçons sur les Modifications du Sang., p. 507.)

*Jaillet's solution of the peptonate is as follows: Take of sublimated perchloride of iron, 1 gramme. Distilled water 60 grammes. Dried peptone 2 grammes. Pure glycerine 40 grammes. Dissolve the peptone in a little water and add the glycerine; dissolve the ferrum perchloride in the rest of the water, and mix the two solutions, add finely pulverized carbonate of soda to saturation, and filter the solution; (see that the solution measures 100 cubic centimetres before filtration.) (Jaillet, Physiological and Chemical Studies on the Chloropeptonate of Iron.)

†The following useful formulas are worthy of mention in this connection:

Iron Chocolate.—Take of chocolate 50 parts, porphyrized iron filings 1 part. Mix. Twenty-five grammes represents 25 centigrammes of iron.

Chalybeate Pill.—(Each pill contains 1 grain porphyrized iron filings, with about 1-6 grain socotrine aloes and pulv. canella, made into a pill with a little powdered licorice root and honey.)

Compound Iron Pills.—B

		GRAMMES.
For one pill.	Quevenne's iron	0.16
	Sulph. quinine	0.01
	Pulv. zingib	0.01
Dose, from one to six.	Ext. cinchon. flav	0.03
	Ext. rhei co	0.03
	Aloes soc	0.005

Then comes the long series of ferrous and ferric salts. At their head we have the ferrous carbonate (the old proto-carbonate), two preparations of which, quite complex, are well known, Vallet's pill and those of Blaud. Quite recently too under the name of the sucro-carbonate of iron, Tanret has put in the market a preparation very agreeable to the taste, which is a combination of ferrous carbonate with sugar.*

Next in order is the iodide of iron, which serves as basis of the pills of Blancard, the syrup of which is so much used in the treatment of scrofula; the potassio-tartrate, of which the celebrated balls of Nancy are composed, and which are called the balls of Mars;† then the ammonio-citrate and the simple citrate; the lactate which Gelis and Conti have introduced; the pyrophosphate (a very elegant preparation), the chloride and the oxychloride, and in fine the recent combinations of iron and albumen, known as the albuminate and the peptonate of iron. One of my pupils, Dr. Chalhonb, has recorded in his graduating thesis the principal trials which I have made with this peptonate of iron.‡

But you are not to believe that all the preparations into which iron enters as a component can be utilized in therapeutics, for there are some that are not susceptible of absorption when ingested. I cite especially the ferro-cyanide of potassium, and Regnault and Hayem have shown us by precise experiments that this salt traverses the organism without undergoing any change, and without producing any modification in the state of the blood corpuscles.

When one takes a general view of all these preparations, it is easy to see that their authors have yielded to two tendencies. In the one case they have taken for basis insoluble preparations, on the supposition that the acids of the stomach would transform them into soluble salts of easy absorption. In the other case, in order not to depend on this solvent action of the gastric juice, the secretion of which is deficient in chlorosis, they have resorted to the soluble combinations, and they have aimed to come as near as possible to those ferruginous compounds which are supposed to be the form in which iron circulates in the blood, and have given the chloride, the lactate, the albuminate and the peptonate. It has even been attempted to utilize the iron of the blood globules, and hæmatin and hæmatoidin have been administered in a state more or less pure, in the form of solution or of pills. The same ideas have led certain experimenters to prescribe in chlorosis preparations of dried and pulverized blood.*

If ferruginous preparations are numerous, chalybeate waters are no less so, and there is scarcely a town or hamlet in this country which is not credited with a mineral spring containing iron among its important ingredients. Paris boasts of two such springs, one at Auteuil, the other at Passy.

[Here follow the details of the principal ferruginous springs of the continent, which are omitted in the translation, owing to their being of little practical interest to American practitioners. It cannot yet be said that the chalybeate spas of this country in variety and in quality, equal those of the continent of Europe. We have, however, one species of natural ferruginous waters, which is unique; there is nothing in Europe like our aluminous waters. These springs are sometimes called acid springs by reason of the free sulphuric acid which they contain. They contain also sulphate of alumina and iron. These ferruginous alum springs are found principally in New York and Virginia. In New York we have the Byron Acid Springs and the Oak Orchard Acid Springs. The water of these springs is too sour to be drunk without dilution. The Bath, Rockbridge, Bedford and Church Hill Alum Springs of Virginia belong to this category. These waters are powerfully astringent and tonic.

Of sulphuretted mineral waters we have several springs that are regarded as ferruginous, notably the Buffalo Springs of Mecklenburg County, Virginia, the Minnequa Springs in Pennsylvania.

Among the Saline Spas are many which contain iron. The Columbian Spring, Saratoga, is a very fine chalybeate water, and is much resorted to by anæmic invalids.

Other chalybeate springs worthy of mention are the Bailey Springs of Alabama, which are alkaline chalybeate; the Schooley's Mountain Springs, New

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Mist. Fer. Aromatic.—(Dublin Ph.)

℞ Iron filings, 15 grammes.
Yellow calisaya bark, 30 grammes.
Columbo root, 12 grammes.
Cloves, 8 grammes.
Peppermint water, 500 grammes.

M. Macerate three days, shake and filter, then add enough tincture orange peel to flavor. Dose, two to three teaspoonfuls a day.

*The formula of Vallet's pills is as follows:

℞ Crystallized sulphate of iron, pure, 20 grammes.
Crystallized carbonate of soda, pure, 24 grammes.
Simple syrup, 9 grammes.
Treacle, 3 grammes.
Water (boiled and deprived of air and sweetened), q. s.

M. Ft. massa: divide in pil. No. 150.

Blaud's pills are as follows:

℞ Dried sulphate of iron,
Pure carbonate of potassa, ℔ 30 grammes.
Pulv. acaciæ, 5 grammes.
Water, 20 grammes.
Syrup simplicis, 15 grammes.

M. Divide into 120 pills.

The formula of the Belgian Ph. is very simple. Each pill consists of the following ingredients:

℞ Crystallized carbonate of soda,
Crystallized sulphate of iron,
Treacle,
Myrrh, ℔ 5 centigrammes (or about 1 grain.)

[The sucro-carbonate of iron of Tanret resembles the saccharated carbonate of iron of the British Ph.]

†The ferri et pot. tart. is made by the contact of pulverized cream of tartar with hydrated sesquioxide of iron; it is the basis of several popular combinations. The tartarized tincture of Mars (French Codex) is made as follows: Take of iron filings, 10 grammes; pulverized cream of tartar, 25 grammes; distilled water, 300 grammes; alcohol, 5 grammes. Macerate a suitable time and filter. The balls of Mars are composed of iron filings, cream of tartar, and certain vulnerary herbs. They are made into balls weighing an ounce, very hard and very soluble. When used, a little is scraped off, dissolved in water, and drunk; it is then called *eau de boule*, and is a popular chalybeate.

‡Chalhonb, Study on the Chloro-Peptonate of Iron—(Thése de Paris, July, 1883.) [The tincture of chloride of iron is probably the most used of all the preparations of steel in this country. It is, however, likely to affect the the teeth from the free HCl which it contains. This may in a measure be obviated by mixing it with syrup, and then with milk; the styptic taste is then no longer apparent; (Vide Druggists Circular. June, 1881). It is worthy of note that Squibb regards the tinct. fer. chlorid. of the U. S. P. as a mistake. It is not fit for use till six months old. An important part of its therapeutic value depends on the others which are slowly generated from the HCl. and the alcohol. TRANS.]

*[See Guerder's article, in the present number of the GAZETTE, "On Defibrinated Blood Powder in Forced Alimentation, and in Exhausted States of the Economy."]

Jersey; Cooper's Well in Mississippi, a purgative ferruginous water, containing iron with much sulphate of soda and magnesia; Montvale Springs in Tennessee; Beersheba Springs in Tennessee, and Rawley Springs in Virginia. The latter is one of our best chalybeate springs, and is a favorite place of resort for anæmic persons.

The quantity of iron in these chalybeate waters is always small; half a grain of carbonate of iron to the pint would constitute a very strong ferruginous water.

The chalybeate waters which prove most valuable are those which contain a large amount of free carbonic acid gas. Most of these waters hardly bear transportation; unless great care be taken they lose their carbonic acid and deposit their iron. TRANS.]

By the side of these natural ferruginous waters are placed the artificial chalybeate potions which may render you some service. You can easily make a very agreeable effervescent chalybeate water by dissolving potassio-tartrate of iron in water artificially charged with carbonic acid gas. The quantity of the ferruginous salt should not exceed one gramme per quart, and fifteen to twenty centigrammes is ordinarily enough for a bottleful of the carbonic acid water.*

As for the choice of a ferruginous preparation, everything depends on the tolerance of the stomach, and as a general rule it may be said that what form of iron suits the best is the best. At the same time, when dyspeptic troubles exist, I believe that the soluble preparations are preferable, though no fixed rule is possible. All your art will consist in varying the different iron preparations soluble and insoluble, according to the case, and in prescribing that form which will most promptly give augmentation of the globular richness, with the least trouble to the digestive functions.

One cannot then say beforehand what preparation of iron is the most likely to suit all cases of chlorosis, and almost any chalybeate may be attended with inconveniences. Orfila has indeed shown that certain salts of iron are toxic, and the experiments of Hans Meyer and Williams have confirmed this. Moreover iron almost always causes constipation, more or less obstinate; this constipation is explained by the presence of iron in the stools, and in abundance proportioned to the quantity medicinally taken; it blackens the stools, as you are aware, a phenomenon whose explanation is not easy. Baruel attributes it to the combination of the iron with tannin in the fæces, but Meyer has shown that iron blackens the stools in persons submitted to a milk diet, and Buchheim explains the blackening by the formation in the intestines of a sulphuret of iron.

If the dark discoloration of the fæces is no evil, the injury to the teeth occasioned by the martial preparations is often a serious matter. This is an argument in favor of the pill form of iron in preference to the soluble forms, for by giving the iron in pills you avoid contact with the teeth.

But the greatest inconvenience of the ferruginous medication, besides the constipation, arises from the gastric disturbance which it occasions, and especially the pain, and there are stomachs which will not bear iron in any form. This intolerance, however, is often the result of the choice of an unsuitable preparation, or of excess in the dose. I believe, in fact, that physicians generally prescribe too large doses. You can, moreover, use as a convenient guide the table of Jeannel given below, which shows you the quantity of metallic iron contained in each of the martial preparations.*

Moreover, in a critical study† which I have made of the employment of iron in therapeutics, I have proved how insignificant the quantity of iron which the blood loses in even the most advanced cases of chlorosis; I have, in fact, shown that in the case of a woman weighing 60 kilogrammes, the quantity of iron contained in the blood does not exceed 2 grammes, and that the most extreme anæmia does not lower this figure more than 50 centigrammes. It is well to have these facts before you when you give iron preparations, and keep well in mind that the renovation of the globules is not proportioned to the dose administered.

Is not this renovation of globules possible without the administration of iron? Hayem affirms the negative, basing his belief on experiments. For him iron is indispensable in the treatment of chlorosis; other medicaments may lend their help, but iron alone is capable of augmenting the number of globules and their richness in hæmoglobin. I do not altogether share this view; I recognize with Hayem that from a scientific standpoint iron is the most active of medicaments as far as blood renovation is concerned, but I recognize also, and this time from a clinical standpoint, that there are a certain number of chlorotic patients in whose case every form of iron fails, and will fail to effect a cure, while complete restoration may be brought about by means rather hygienic than medicinal.

Moreover, iron does not seem to have any other action than that of restoring the globules, and this renovation does not take place except where there is anæmia. Although Hayem pretends that in the normal state iron may determine a veritable "martial plethora," Cutler and Bradford maintain that this plethora cannot exist.‡ It has also been affirmed since the labors of Pokrowsky, that iron augments heat production and the excretion of urea, but these

* A good formula is the following, where you cannot have ready access to a soda fountain: Take of spring water a wine-bottleful; bicarbonate of soda, one English dram and fifteen grains; potassio-tartrate of iron, fifteen grains; citric acid, one dram. Dissolve the bicarbonate of soda and the tartrate of iron in the water, and add the acid in coarse powder; instantly cork and seal the bottle firmly. An agreeable and sparkling chalybeate drink. (Mialhe.)

*Jeannel's table to show the quantities of iron contained in 100 parts of the various ferruginous preparations:

	Part of iron.
Iron of hydrogen (fer. redact. Quevenne's iron)	100
Ethiop's martial (black oxide of iron)	72
Ferric oxide	70
Hydrated sesquioxide	59
Aperient saffron of Mars	51
Crystallized sulphate of iron	21
Ferrous lactate (lactate of protoxide)	19
Dried carbonate of iron (proto-carbonate	47
Iodide of iron	18
Citrate of iron (ferrous citrate)	30
Ferroso, ferric phosphate	30
Chloride of iron	34
Sulphate of peroxide (sesquisulphate)	28
Potassio-tartrate	21
Ferric citrate (citrate of peroxide)	22
Pyrophosphate (citro-ammon. ferric pyrophos.)	18
Pyrophosphate of iron and soda	20

(Jeannel Formulaire Officinal; 2d Ed.; Paris, 1876.

†Dujardin-Beaumetz: Critical Reflections on the Employment of Iron in the Treatment of Chlorosis. Bull. de Therap., t. xc., p. 396).

‡On the effect of iron, cod liver oil and arsenic on the globular richness of the blood. Am. Jour. Med. Sci., Jan., 1878.

are rather the indirect effects of the administration of this medication when attended with restoration, and consequently, with increased appetite and nutrition.

The adjuvant remedies of chlorosis are numerous. In the first rank is placed manganese, which has enjoyed a great reputation. It was in 1847 that Hannon, struck with the little result which attended the ferruginous medication with certain chlorotics, conceived the idea of using manganese instead of iron. Petrèquin, of Lyons, associated iron with manganese in chlorosis, and Trousseau and Pidoux advocated the same treatment. According to the researches of Hayem, manganese is not only useless, but even injurious in retarding the action of the ferruginous preparations, and it is better to discard it altogether.

If manganese be, as I am inclined to think, inefficacious, it is not so with arsenic, which is a valuable medicament in chlorosis. Arsenic is, in fact, one of the most powerful stimulants of nutrition; it increases the appetite and induces embonpoint, and I maintain, despite the negative results attained by Hayem and Delpeuche in the enumeration of the globules during the administration of arsenic in chlorosis, that in certain cases where iron is not well borne, arsenic may be of real service. But I have no faith in the arseniate of iron so much in vogue*—in giving the preparation you can appreciate neither the effects of the iron nor of the arsenic—and if it were necessary to give both remedies at the same time, I should give them separately.

I pass rapidly by nux vomica, proposed by De Ricci, phosphide of zinc, and phosphorus, recommended by Ashburton Thompson, cod liver oil, whose action on the globules has been studied especially by Cutler and Bradford,† and I come to two therapeutic agents which have a real action in the treatment of anæmia. I refer to hydrotherapy and ærotherapy.

Hydrotherapy, in stimulating the functions of nutrition, and rendering more active the peripheral and central circulation, is a powerful curative agent in the treatment of anæmia. In the comparative trials which in my hospital service I have made with douches and chalybeates, I ascertained always, as Hayem had done before me, that as far as increase of globules is concerned, iron is much superior to cold water douches; but I also ascertained that in associating hydrotherapy with the ferruginous medication, the globular renovation is notably quickened. Hydrotherapy is then a powerful auxiliary, and I advise you to make use of it in the treatment of anæmia, following the precepts which I gave you in a previous chapter.

Ærotherapy, like hydrotherapy, plays an important part in the treatment of chlorosis, a part which is easily explained when we think of the intimate action of oxygen on the hæmoglobin. Hence it is that inhalations of oxygen have long been recommended in anæmia. While conceding that these inhalations energize the digestive functions, and that they augment the quantity of urine, Prof. Hayem, as a result of his comparative trials, denies that they have any direct action on globular formation.

At the same time these inhalations of oxygen will render you great service when you have to deal with chlorosis complicated with digestive troubles. Such cases are unhappily too frequent, where too you meet with obstinate anorexia and repeated vomitings. These inhalations remedy the gastric troubles, and enable iron tonics to be borne.

Baths of compressed air act in the same way in the treatment of chlorosis, and it is easy to understand the success obtained with these baths by Genté, Tabarié, Moutard Martin, Pravaz and Fontaine. You can make use of inhalations of compressed air (as is done in my hospital service), and exhalations in rarefied air, by means of the ingenious apparatus of my pupil, Dr. Maurice Dupont. Without having an action as energetic as the inhalations of oxygen, or the baths of compressed air, these inhalations of compressed air energize the respiratory functions, and have an adjuvant and favorable action in the treatment of anæmia. For the employ of these different ærotherapic means, I refer you to what I have said in the previous chapters.

By the side of ærotherapy we must place out-door air and sunlight, and this brings us to the last part of our subject, the hygienic treatment of chlorosis.

While recognizing that iron plays a special part in globular renovation, and constitutes the specific treatment of this affection, we must nevertheless admit that there are cases where the digestive functions are so disturbed, and where the secretion of intestinal juices is so enfeebled, that neither preparations of iron nor good food can cure them, however, judiciously the treatment may be carried out. What we are obliged to do is to place the patient in an invigorating atmosphere with abundance of pure oxygen, which shall stimulate all the functions of the organism. This is especially necessary in the case of the chlorotics of our large cities, where the determining cause of the chlorosis resides, in great part, in the impure air which they breathe.

Therefore in all cases of rebellious chlorosis do not hesitate to send your patients to the country or to the sea-side, or even to the mountains, (as Lombard recommends). Make them live out doors, and in the sunshine, and you will attain results which neither ferruginous medicines nor a well selected dietary regimen had enabled you to obtain previously.

Alimentation nevertheless has an important rôle; not only because healthful nutrition is dependent on it, but because it is a means of introduction of iron

*A preparation much in repute in Germany, and which is given in the dose of from 2 milligrams to 1 centigram. The following is an old formula, in which the tartarized tincture of iron is associated with Fowler's solution:

℞ Tincturæ martis tart.,
Fowler's sol., ää 10 gram.

Dose, 20 drops every day in divided doses.

†De Ricci, considering chlorosis as a primitive malady of the nervous system, the globular alteration being secondary, has recommended strychnia as the preferable tonic, giving it with sulphate of iron. Thompson has vaunted zinc phosphide, maintaining that it improves nutrition, and relieves the neuralgia which so often accompanies chlorosis. Cutler and Bradford have studied by means of the apparatus of Malassez the influence of iron on the richness and number of the globules. Iron does not increase the globules in a healthy person, but it does so in a marked manner in anæmic persons. Cod liver oil in healthy, as in anæmic individuals, produces augmentation of the red corpuscles, and a slight increase of the leucocytes. Fowler's solution causes increase of the red globules in a healthy person, but has no action in the anæmic.—(Ashburton Thompson on The Treatment of Chlorosis and Anæmia with Phosphide of Zinc.—Obstetric Journal, No. 24. Cutler and Bradford on The Action of Iron, Cod Liver Oil and Arsenic in Increasing the Globular Richness of the Blood.—Am. Jour. Med. Sci., Jan., 1878.)

into the economy; not to mention those artificial ferruginous foods, as bread, or chocolate containing iron, animal food contains this metal in its most assimilable form, and there is no chalybeate equal to beefsteak. But by the side of meat, is ranged a great number of alimentary substances, and nothing is more curious in this respect than the figures furnished by Boussingault.

Boussingault in fact, not only has given us a list of the principal foods with the proportion of iron which they contain, but in studying the daily rations of the soldier and day laborer, he has shown us that they contain from six to ten centigrammes of iron and we are enabled to affirm that in the dietary of the wealthier classes the quantity of iron is considerably greater.*

Unfortunately it is not enough to know that the food contains of itself sufficiency of iron to cure chlorosis, it is necessary that these aliments shall be digested and absorbed. In the greater number of our chlorotic patients the digestive functions are so enfeebled that neither this digestion nor this absorption can take place, and hence it becomes necessary to invoke the auxiliary influence of pure bracing outdoor air, hydrotherapy, and even gymnastics, which regulate and arouse the forces of the economy.

But before terminating this too long lecture, it remains for me to encounter two important points in the subject which is before us. Ought we to try and cure all cases of chlorosis? Are all cases and kinds of chlorosis curable? Trousseau maintained that there were forms of chlorosis which we ought to let alone, and in speaking thus, he meant those symptomatic anæmias in the commencement of phthisis; he affirmed that in these cases when you administer iron tonics you may cure the chlorosis, but you will fatally enkindle the symptoms of pulmonary tuberculosis.

I believe that this affirmation of Trousseau is an exaggeration. I admit with him that ferruginous medication may have its inconveniences, and in particular that of predisposing to hæmoptysis, but to say that in these cases we ought not to treat the anæmia, is to go to the other extreme. We ought on the contrary to raise the rate of nutrition as high as possible in persons predisposed to tuberculosis, for the more the functions of the economy are feeble and languishing, the more the soil becomes favorable for the development and multiplication of the *bacillus tuberculosis*. We ought then to treat these false chloroses, but especially to employ hygienic means in these cases.

Are all forms of chlorosis curable? Assuredly not. There are anæmias called pernicious, essential anæmias which resist all treatment. You will see these pernicious anæmias, which Immermann and Biernier have well studied, supervene as a sequel of prolonged lactation, and I have seen them so arise in my infant hospital. That which most markedly attracts your attention in these cases, apart from the enormous decrease of blood corpuscles, and the disappearance of hæmatoblasts, is the anorexia which nothing can overcome, a subject concerning which I have already spoken *apropos* of diseases of the stomach.*

At the necropsy nothing is noted but fatty degeneration of the different organs. Is this fatty disease primary, or is it secondary? This is a question which we cannot answer. What has struck me particularly in these cases is the fatty transformation of the pancreas, a morbid condition which must play an important part in the digestive troubles. Whatever may be the pathogenesis, everything has been tried, ferruginous preparations, inhalations of oxygen, country air and exercise, the most carefully directed dietary regime, and everything has failed. I have even attempted, not merely the alimentary regimen of Brown-Sequard, but forced feeding with the œsophageal sound, but with indifferent results. It may be truly said that the alimentary canal, profoundly affected in all its glandular elements, is incapable of fulfilling its functions of digestion and assimilation.†

Transfusion has been recommended in these inveterate cases, and I have even seen it practiced by

*According to Boussingault the daily rations of the sailor and the soldier in France, contain 0.0660 to 0.0780 of iron. In the case of the English workingman the quantity is greater, attaining the enormous figure of 0.8912 in England, and 0.1090 in Ireland.

Below is Boussingault's table, showing the proportion of Iron in different alimentary substances; the proportion being given in decimals of a gramme:

	1000 PARTS.
Beef's blood	0.03750
Swine's blood	0.06340
Beef flesh	0.00480
Veal	0.00270
Fish (whiting)	0.00150
Fresh cod fish	0.00420
Eggs (of fowls)	0.00570
Shell fish	0.00360
Fresh beef bones	0.01200
Sheep's feet (bones)	0.02090
Wheat bread	0.00480
White beans	0.00740
Oats	0.01310
Lentils	0.00830
Potatoes	0.00160
Milk (of cows)	0.00180
Carrots	0.00090
Indian corn	0.00360
Rice	0.00150
Apples	0.00200
Spinach	0.00450
Cabbages (green leaves)	0.00390
Red wine (of Beaujolais, per quart)	0.01990
Beer	0.00400
River water (Seine)	0.00104

(Boussingault, Compus Rendus de l. Acad. des Science, t. 74, p. 22.)

*Immerman, of Bale, and Biernier have studied a disease which they have described as progressive pernicious anæmia, and which is characterized especially, by a hæmorrhagic diathesis, and by febrile attacks. In this anæmia all the elements of the blood diminish in quantity; at the autopsy is observed fatty degeneration of the heart, of the muscles and of the different viscera.

Quincke has found in a case of pernicious anæmia, a considerable quantity of iron in the liver, in the kidneys and in the pancreas. In the liver the quantity of iron is as great as 7 grammes, or a quantity larger than the sum total of iron in the economy in a normal state. He maintains that this iron is a result not of ferruginous treatment, but of the destruction of corpuseles. (Immermann, Ueber Progressive Perniciose Anemie. Quincke, Zeitschrift den Andenken an Alb. Vhaller. Dargebracht, Bern, 1877. Destrée, On Progressive Pernicious Anæmia, Jour. de Med. de Bruxelles, August, 1882. Jacquemart, On Progressive Pernicious Anæmia, Jour. de Med. de Bruxelle, July, 1882. Lepine, Union Med., Nos. 114 and 115, 1876.)

†Brown-Sequard has proposed to treat functional dyspepsia, anæmia, chlorosis by a sort of forced or frequent feeding, which consists in making the patient eat a great many times a day, even as many as sixty times. (Brown-Sequard, On a New Treatment of Functional Dyspepsia, Anæmia and Chlorosis in Archives of Scientific and Practical Medicine, No. 1, 1873.)

my master Behier for anæmia, and with good results. I believe in fact that in true pernicious anæmia transfusion, although not conferring any very lasting benefit, may nevertheless lengthen out the life of the patient. I think however that the benefits of the operation are hardly commensurate with the risks.

There are then, gentlemen, chloroses which we cannot cure; happily these are exceptional, and by following out the precepts which I have given, you will meet with success in the greater part of your cases.

It remains for me to indicate how you should modify your treatment according to the forms of anæmia which you have to treat. I will be brief, as this lecture has already been too long. It is especially in essential anæmia that the therapeutic rules which I have traced are applicable. This chlorosis presents itself, as far as menstrual troubles are concerned, under two states; sometimes there is amenorrhœa, sometimes menorrhagia. When the menses are very profuse it is necessary to be chary in the administration of ferruginous medicines which increase the hæmorrhage, and it is well to employ concurrently ergot or ergotine.

When you have to treat symptomatic anæmia, and in particular anæmia from loss of blood, good food and out-door air may be sufficient to bring about a cure. As for the anæmias which accompany cachectic states, they are not amenable to ferruginous treatment and our efforts should aim to combat the first cause of these cachectic states.

Such, gentlemen, are the therapeutic rules which I desired to give you as touching anæmia. In the next lecture I shall continue the study of the treatment of general diseases, and shall make my subject the treatment of acute rheumatism.

Jambu Assu.

By A. B. Lyons, M. D., Analytical Chemist, Detroit, Michigan.

JAMBU ASSU is the local name of a plant—apparently a shrub—indigenous to Brazil. When received the drug was accompanied by a very meagre statement of its medicinal properties. The whole plant, it appears, is regarded as medicinal; it is employed as a stimulant in low fevers, and as an anti-periodic; it is believed to exert a specific influence over the uterus, and is said to be capable even of producing abortion, at the same time it is said to be employed for the relief of dysmenorrhœa and other painful affections of the womb.

It was also stated that the plant is known to botanists as Eugenia jambos, Lin., natural order Myrtaceæ. This probably is a mistake, since the plant named is the well known rose apple, a tree of considerable size, producing an edible fruit.

The portions of the plant received comprise the larger roots together the lower portion of the stem. One is forcibly reminded, in the general aspect of these portions of the plant, of some of the Piperaceæ.

The stems are from 12 to 30 millimetres in diameter nearly cylindrical, but with prominent nodes at intervals of 10 to 18 centimetres. From some of the lower nodes spring accessory roots, as seen in the accompanying wood cut.

Fig. 1. Stem of Jambu assu, showing aerial roots, and fibrous fracture.

The bark from the larger stems is 2 to 2½ millimetres in thickness adhering pretty firmly to the wood. Outer surface more or less distinctly furrowed longitudinally, bearing also numerous verrucosities, each having at its summit a cicatrix as of a minute transverse fissure. These last are scarcely noticeable in the younger stems, but in some of the older ones form the most conspicuous distinctive feature present. (Neither the furrows nor the warty protuberences are shown as they should be in the wood cut.) Color of the surface gray-brown, sometimes with a tinge of dull green. Inner surface of the bark blackish-brown, deeply marked with sharply drawn longitudinal furrows, corresponding with the inter-spaces between the medullary rays of the wood. The bark is very brittle with an irregular, short fracture. The

wood is excessively hard and tough of a brown or brownish-gray color, often with a yellowish tinge. The outer surface is longitudinally striate from the projection of the numerous medullary rays. In the centre there is a well defined pith, traversed throughout its length in the younger stems, by about seven woody tubes about ½ millimeter in diameter. The cross section of the stem exhibits numerous well defined medullary rays, with the inter-spaces rather regularly marked with circular pores. In the pith the sections of the tubes already mentioned are particularly noticeable.

The wood breaks with difficulty exhibiting a fibrous fracture.

FIG. 2. Portion of root of Jambu assu.

The roots are tortuous and branching, furnished with a thicker bark proportionately than that of the stem. The surface is marked by some transverse wrinkles, and is of a brown-gray color. The general structure resembles that of the stem, but pith is absent; the medullary rays are fewer in number, and the pores in the inter-spaces between these much more numerous, with a distinct concentric arrangement.

The freshly broken bark of the root or of the stem has a distinctly aromatic odor; when chewed the taste is at first spicy, but produces almost immediately a tingling sensation, followed by a feeling of numbness very similar to that produced by prickly ash berries.

Chemical Examination.—A portion of the drug consisting of a mixture of stems and roots was employed for the chemical investigation. On incineration there remained 2.78 per cent. of ash:

Soluble in water	0.14 =	4.9%
Soluble in hydrochloric acid	1.31 =	47.2%
Insoluble	1.33 =	47.9%
	2.78	100.0

Surprised at the large proportion of insoluble residue, I made a special estimation of silica which I found to amount to 1.15 per cent. of the sample examined, or 41.4 per cent. of the entire ash. Iron was present also in a noticeably large proportion, amounting to 2.5 per cent. nearly, of the total ash.

FIG. 3. Section of stem of Jambu Assu. The lower figure is of natural size, the upper represents a segment magnified 3 diameters.

FIG. 4. Inner surface of a fragment of the root bark of Jambu Assu.

These facts were noted as of special interest; a complete quantitative analysis of the ash was not considered necessary, the remaining constituents being those ordinarily found.

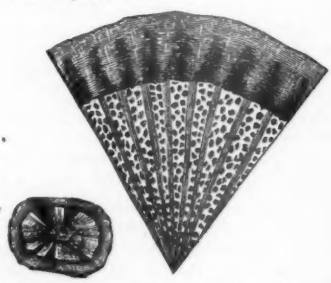

FIG. 5. Section of root of Jambu assu; lower figure of natural size, upper magnified 8 diameters.

A systematic examination of the drug was made with the following results:

The drug was extracted successively with cold petroleum benzin, boiling sulphuric ether (by hot re-percolation), boiling alcohol and water. The solu-

tion obtained by petroleum benzin in the cold was of an amber color, and on evaporation left a residue, which was golden brown, and possessed in a high degree the characteristic odor and the peculiar pungency of the drug. When hot petroleum benzin was employed in the extraction, a somewhat larger amount of extractive was obtained, and it was observed that the concentrated solution, on cooling, deposited beautiful colorless crystals in abundance.

The extract obtained by petroleum benzin was dried at the ordinary temperature in the dessicator, and weighed, and then exposed for some time at a temperature of 110 C. to drive off volatile oils and traces of moisture. It was then treated with water, which dissolved about one-fifth of it; the solution gave distinct reactions with tannic acid, Mayer's reagent, and other general reagents showing the presence of an alkaloid. The remainder of the extract was treated with alcohol, which dissolved the greater portion of it, leaving a small residue of fixed oil and waxy matter.

The ethereal extract presented little of especial interest, most of its constituents being such as alcohol would have removed more completely at a later stage in the analysis.

But the alcoholic and the ethereal solutions possessed the pungent taste so characteristic of the drug, which seemed thus to reside in a soft resin.

The alcoholic solution contained a notable proportion of an alkaloid, which formed with sulphuric acid readily crystallizable salts.

The following table exhibits the results of the systematic analysis:

Extracted by petroleum benzin	2.80%
Extracted by sulphuric ether	2.75
Extracted by alcohol	6.10
Extracted by water	2.00
Total extractive	13.65%

The benzin extract contains:

Volatile oils, etc., driven off at 110° C.	.55%
Soluble in water, and giving reactions for an alkaloid	.45
Resin, etc., soluble in alcohol	1.55
Fixed oil, wax, etc	.25
Total	2.80%

The ethereal extract contains:

Volatile matter (loss at 110° C.)	.35%
Soluble in water	.05
Resins, soluble in alcohol	1.70
Fatty and waxy matter	.65
Total	2.75%

The alcoholic extract contains:

Inorganic matter (ash)	.50%
Sparingly soluble matter, separating on cooling.	.60
Soluble in water	3.00
Including tannic and other organic acids soluble in absolute alcohol	.38
Organic acids, coloring matter, etc., insoluble in absolute alcohol, but precipitated by basic acetate of lead	.19
Ash	.30
Acid resins	.94
Neutral resins	.75
Residue insoluble in absolute alcohol and in water.	.31
Total	6.10%

The watery extract contained 1.25% ash.

No starch or sugar was detected.*

The most interesting constituents of the drug, as revealed in the course of the analysis were:

1st. The crystalline neutral body obtained by extraction with hot petroleum benzin. The same substance is also obtained by extraction with alcohol, and is present in such quantity that the alcoholic extract on spontaneous evaporation appears as a semi-solid crystalline mass. The crystals are sparingly soluble in boiling water, and in hot ether, benzole and petroleum benzin; more readily in alcohol, a carbon bisulphide, and especially in chloroform. They are tasteless, neutral in reaction, insoluble in acids, somewhat more soluble in alkaline solutions than in water. They can be procured in a state of purity by simply treating the powdered drug by hot repercolation with petroleum benzin. The concentrated solution deposits them on cooling, or an alcoholic extract of the drug may be treated repeatedly with hot petroleum benzin, which, on cooling, deposits the crystals in a similar manner; but in this case a recrystallization of the compound from hot benzin may be found necessary.

2d. An alkaloid which is present in small proportion only. It may be obtained from the alcoholic tincture by adding a little acid water, distilling off the spirit, washing the aqueous portion of the residue with ether, rendering the solution alkaline and shaking it repeatedly with chloroform.

The solution gave reactions with tannic and picric acids, and with nearly all the group reagents for alkaloids, including the double iodide of bismuth and potassium, solution of iodine in potassium iodide, solution of bromine in potassium bromide, Mayer's re-agent, double iodide of cadmium and potassium. In the concentrated solution alkalies produce an amorphous precipitate.

The solution has a somewhat bitter, characteristic taste.

The quantity of alkaloid, however, is small, and it is not likely that the medicinal virtue of the plant is dependent on it.

3d. A peculiar acid, sparingly soluble in water, which crystallizes readily in small rhombic tables, frequently grouped in rosettes, and closely resembling in general appearance and behavior uric acid. The proportion of this acid is small, and it may prove to be not new to science.

4th. Unquestionably the property which especially characterizes the drug is its peculiar pungency, and this is dependent on a constituent of its oleoresin. This principle does not appear to be a volatile oil, although the volatile oil obtained by distilling with water or steam possesses the same pungency, and there is, doubtless, a close relationship between the volatile oil and the soft resin in which this property chiefly resides. The characters of this resin appear to be these: It is soluble, rather sparingly, in petroleum benzin, soluble in ether, alcohol, chloroform, etc. It is almost insoluble in water, but dissolves sparingly in alkaline solutions. It may be obtained in combination with the volatile oil by extracting the alcoholic extract with hot petroleum benzin, having first crystallized out the neutral white substance already described.

This investigation may be regarded as of a preliminary character. It remains yet to determine the ultimate composition of the crystalline substance, and to ascertain whether it possesses any active properties, to study further the alkaloid or alkaloids shown to be present in the drug, and to gather facts

*For the above determinations I am indebted to my assistant, Mr. Frank A. Thompson, who has rendered besides valuable aid in this investigation.

in regard to the physiological action of the pungent oleoresin which probably represents the medicinal activity of the drug.

Laboratory of Parke, Davis & Co., September, 1883.

On the Employment of Defibrinated Blood Powder in Forced Alimentation and in Exhausted States of the Economy.

By Dr. Guerder, of Paris, France.

THE results obtained by Drs. Dujardin-Beaumetz and Debove in forced alimentation are known to the profession generally. They show in the clearest possible way what immense importance we should attribute to alimentation in the treatment of certain diseases. The indication for forced feeding, in fact, presents itself very often in practice. Apart from phthisis, do we not find cases sufficiently numerous of chlorosis, of anæmia, of convalescence from grave diseases, organic affections of every kind, accompanied by loss of appetite and disrelish for food.

I have often had recourse to the powder of meat, of which I have tried all the preparations known, and which I have given under various forms; always the insipid and somewhat sickish taste of this powder has prevented patients from continuing its use.

The idea then occurred to me to substitute for the meat powder the powder of blood well prepared, and being successful at the start, I was encouraged to continue my experiments.

From many points of view it would be useful to employ powder of blood as a succedaneum to meat powder. (1) Its price is very much less, which is a recommendation to those with limited means, and to hospitals; (2) as regards nutritive value, blood powder thoroughly desiccated, and representing seven times its weight of fresh blood, is superior to the powder of meat; (3) it exercises a more pronounced stimulating action on the digestive apparatus and on the whole economy. It is impossible to say whether the excitation following the use of this aliment ought to be attributed to its extractive matters, its salts, or its iron, the latter existing in sufficient proportion (0.30 per cent.) to represent medicinal doses of this medicament.

Blood has the reputation of being very indigestible; this reputation does not seem to me to be sufficiently justified, for the culinary preparations into which it enters, such as blood puddings, contain a considerable quantity of fatty materials quite difficult of digestion. The blood bread made in Sweden is very nutritive, and digests readily; it is the same with the "blood beefsteaks" in use in the south.

The various attempts made by Drs. Dujardin-Beaumetz and Debove to substitute blood powder for meat powder in forced feeding, did not give very satisfactory results at first. Subsequently, on making trials of the defibrinated blood powder which I furnished, they have had better success—(this I have learned by the way of oral communication.) I have no doubt that their first want of success was owing to their using in excess this concentrated nutriment, and to faulty preparation of the powder.

You will, in the clinical employment of the powder, meet with stomachs that rebel against it, as is the case with every other kind of aliment. Thus far I have administered it to 51 persons, sick and well; 44 have borne it well, and have continued its use without any inconvenience for several weeks; 3 could not tolerate it, and vomited it almost immediately; four digested it with difficulty, and experienced sensations of weight in the stomach, eructations, and sometimes vomited the powder undigested some hours after its administration. These four persons were chlorotic. The three patients that vomited it immediately, were convalescents from typhoid fever. The taste *sui generis* of blood, without being very disagreeable, is obnoxious to a certain number of persons, but may be covered by the aid of some aromatic powder, at the pleasure of the patient. It will not do to exceed a certain quantity; I prescribe in general three times a day a dessertspoonful (7 to 8 grammes) to children; twice or three times as much, giving a heaping tablespoonful at a time (20 to 25 grammes) three times a day to adults. These doses are generally well borne, and suffice for rapid reconstruction of the organism. Seventy to seventy-five grammes of the powder in fact equals five hundred grammes of fresh blood. If digestion is painful you can add a little pepsin.

The preparation of the powder of blood demands great care. I use only beef's blood, for sheep's blood has a disagreeable odor. The blood is taken perfectly fresh, defibrinated, cooked from four to five hours over a sea water bath, then dried slowly in a current of warm air at a temperature of 40° to 45°C. (104° to 108°F.). The process is somewhat long, taking three days at least. The length might be somewhat abridged by pressing the paste of cooked blood between dry cloths, but this method has the disadvantage of taking from the blood mass all its soluble parts and especially the saline principles whose presence plays an important part in the solution and digestion of albuminous substances. I attribute in some measure to this preservation of the salts the good results which I have obtained.

The dried blood presents itself under the form of lumps more or less large and irregular, which are reduced to an impalpable powder in a mortar. This powder is then still further dried in an oven to remove the last traces of moisture and ensure its safe preservation.

It may be asked if the pulverization in a mortar may not induce a change in the albuminoid matters of the blood which will diminish their solubility, as is the case with gluten. I have made many comparative trials with artificial digestion, and the impalpable powder has always undergone solution in far larger proportion than the coarser powder. I have administered to patients sometimes the one, sometimes the other, and have never observed any difference from the point of view of digestibility.

The powder of defibrinated blood ought to be administered at meal time; preferably in some cold drink; water, wine, milk or coffee. It may be given to infants in suspension in milk or stirred well into syrup. Heat develops a peculiar taste, and renders it more difficult of absorption. Patients in general take it without repugnance.

CLINICAL OBSERVATIONS.

I here present several cases of patients to whom I have given the blood powder.

Convalescences.—The epidemic of typhoid fever which raged in 1882, offered me in the midst of a population of poor people, favorable conditions for experimentation. I gave the powder of blood to

eight convalescents, all of whom had been affected with the fever in a grave form, the duration of which had had a minimum of twenty to thirty days. These patients had an insufficient dietary allowance by the Board of Charities, which consisted mainly of three pounds of meet a week. Of these eight patients, three could not support the powder and vomited it immediately. The other five did not suffer any inconvenience and used liberal quantities of the powder for several weeks, and their convalescence was much more rapid than that of their companions in the disease who did not take the defibrinated blood. It need be stated that the patients submitted to experimentation took no other remedies.

Case 1. B. E., æt. 20 years, was taken the 11th of October with adynamic fever, characterized by predominance of intestinal symptoms. November 17th convalescence was established, but the appetite did not return. December 2d the patient, indigent, lacking suitable food, could not walk across the chamber floor. I prescribed for him the powder of beef blood, in the dose of six teaspoonfuls a day, each dose being given in a cup of milk or broth. The powder was well supported, and the patient took it without repugnance. The 5th of December I found him up and dressed, and walking back and forth in his chamber; his strength and appetite improving. The 15th of December he was able for the first time to go out (the weather being warm) and by the first of January he was well enough to resume his occupation of locksmith, having entirely recovered from his disease.

Case 2.—Charles H., æt. 26 years, attacked with typhoid fever October 8th. Is the oldest of four children of a family of day laborers, all of whom have had the fever, and who are in poverty and wretchedness. Convalescence the 2d of November. At the end of a month by reason of lack of sufficient nourishment, his strength had not returned, the appetite was poor, digestion painful. He was given four teaspoonfuls of blood powder a day. This powder was well borne; from the second day, digestion was less painful. I increased the quantity to six teaspoonfuls. At the end of eight days there was a complete change; the appetite was excellent, the strength was improving every day; the pains, before experienced in the limbs had disappeared. The treatment was continued a month, at the end of which time the patient was fully restored.

These two observations are very characteristic. The others present less of interest, because the disease was less grave, and convalescence less painful.

Chlorosis and Anæmia.—I have given the blood powder to 24 patients affected with chlorosis. Four have been taking it only a few days. Of the 20 other patients, two vomited it frequently and digested it with difficulty; two others, who were dyspeptic, suffered oppression of the stomach in consequence, and disagreeable eructations, which caused them to discontinue its use. In the remaining 16 cases the results were very satisfactory.

Case 3.—Mademoiselle Emile M., æt. 17 years, in easy circumstances, is one of those chlorotic girls that are the despair of a physician. She has been treated by several physicians and by myself for two years past. Tonics and chalybeates of all sorts as well as ferruginous mineral waters have been successively administered without great results. Menstruation regular but scanty. For some time past the young girl, naturally tall and of stout build, was losing flesh very fast; complexion sallow, lips pale; could not bear any fatigue; the least emotion, the slightest exertion brought on violent palpitations of the heart. The appetite was quite gone, and the sight of food provoked nausea; if forced to eat, she was taken with vomiting immediately after; short dry cough, but nothing about the lungs to excite apprehension. I prescribed the powder of meat. The patient took it with some repugnance, and vomited it at once. After trying the meat powder unsuccessfully for two days (in spite of the willingness of the patient to submit to any treatment), I was compelled to give it up. I proposed "gavage" (artificial feeding), but she would not consent to it. I then had recourse to the powder of blood. The treatment was commenced Oct. 6th, at first in the dose of 3, then 6 teaspoonfuls a day. The first effect, singularly enough, after three or four days' treatment, was to cause the nausea to disappear, and the patient began to eat a little. At the end of a fortnight the gain was manifest, the appetite was good, and the digestion normal, the palpitations were gone, and she was able to walk out every day. The treatment has been continued ever since, with occasional interruptions, and the young girl is now quite well.

Case 4. D——, a soldier of the infantry, went home Oct. 5th under a leave of absence, to be treated for anæmia, consecutive to an attack of acute rheumatism, from which he had suffered the year before. He was affected with an organic heart trouble, which was one reason of his discharge.

Having taken cold during a long journey of 36 hours, the patient arrived home in a deplorable condition; diffused pains in the joints, præcordial distress, and great oppression. An appropriate treatment caused these symptoms to improve at the end of a fortnight, but left the patient in a condition of extreme prostration, which, coupled with the heart affection, caused him to suffer oppression, palpitations, and even syncope after the least exertion. The appetite was gone, the complexion ashy pale, the emaciation considerable. I prescribed the powder of defibrinated blood, first in doses of one, then of two teaspoonfuls three times a day with milk and broth. The reconstruction of this so much deteriorated organism was brought about more quickly than I expected, considering the bad hygienic condition, the poverty of the family, and the existence of an incurable organic affection. In a fortnight he could go out; the appetite had returned; the oppression and the palpitations had notably diminished. The young man returned to his regiment, but his invalid condition forbade his continuance in the service.

Case 5. Madam B—, aged 26, married, without children, is a victim of chronic chlorosis. Takes too little care of her health. Five years ago she had hæmoptysis. In July, 1882, her mother, seeing that she was more feeble than usual, consulted me. I prescribed quinine, wine and Rabateau's dragees. She did not follow the treatment regularly, and took no exercise, giving her whole time to music. January 11, 1883, I was called to the patient, who had kept her bed for several days. At the termination of her last menstruation, which had been more profuse than usual, she had fallen into a state of extreme prostration; pains in the limbs; oppression and palpitation after the least exertion, which

obliged her to keep her bed; incessant dry cough; febrile movement towards evening, and moderate night sweats; complete insomnia; appetite nil, and disgust for all food except milk, of which she drank two cupfuls a day. On auscultation I found some dullness at the right apex, with prolonged expiration, but no râles. There is probably an old lesion there, dating from the period when she had hæmoptysis. There seemed to be an urgent indication to feed the patient, and I proposed the defibrinated blood powder, which she took without repugnance. I commenced with small doses, frequently repeated, and at the end of eight days I arrived at the daily quantity of six teaspoonfuls. Meanwhile I had a kind of chocolate prepared containing 25 per cent. of blood powder, and the patient took every morning a cup full made from two of the chocolate tablets. Little by little, but slowly she recovered strength; at the end of a fortnight she could leave her room, come down stairs and take a few turns in the garden. During this fortnight her sole nourishment was the blood powder, two cups of milk a day and a few oysters. There was still some vomiting, and she did not recover her appetite till she was able to go out. To-day she has recovered her usual state of health; the oppressions, the palpitations, the insomnia, the night sweats, have entirely disappeared. There is still a little cough which has increased of late under the influence of a cold which she contracted when on a journey.

Phthisis.—The results which I have obtained in pronounced phthisis are less striking than the preceding observations. When the disease is not far advanced there is always produced an augmentation of strength and appetite; but this passing amelioration is more than offset by the annoying returns of bronchial catarrh, contracted under the influence of the frequent variations of temperature the past few months. I have not, therefore, been able as yet to form a clear opinion as to the value of this nutritive powder in this affection. It is the same in other organic affections in which I have given the powder of defibrinated blood; the results vary necessarily with the stage at which the disease has arrived, and with the divers phenomena which accompany this evolution, or result from it. Observations more numerous and more prolonged are needed.

I shall be happy if my confréres in hospital or private practice will supplement these researches by researches of their own, which I am persuaded will go to confirm what I have said as to the preëminent utility of this new nutritive preparation. They will be able to find a good article of defibrinated blood, made according to my orders, at the pharmacy of Dalmon.

[Parke, Davis & Co., Detroit, have manufactured a powder of desiccated defibrinated bullock's blood, which is now in the market, and which is like that of Guerder's in properties, and is made by a process substantially identical.]

Spinal Nervous Prostration, Jamaica Dogwood.

By F. C. Herr, M. D., Philadelphia, Pa.

DR. I. PHIPPS, of Stanton, Michigan, on page 367 of the September number of the Therapeutic Gazette, presents a case which he says has baffled his skill and knowledge, and he, therefore, asks for an expression of opinion from the profession as to the probable disease which afflicts his patient. The doctor has so very incompletely stated the case that it is a difficult matter to deduce any conclusion from his presentation of it. One expression, however, contained in his brief article seems pregnant with meaning, and really, at this long distance, becomes the key by which we may be enabled to unlock some of its mysteries and perhaps admit a faint ray of light. The doctor says the patient is "a young lady who has been an invalid over six years, suffering from spinal nervous prostration." "Spinal nervous prostration" is a significant phrase in this that it may mean little or it may mean much. What does Dr. Phipps mean by it? Does he mean irritability of the spine or spinal anæmia—a train of symptoms so designated because a better name has never been chosen? Does he mean that condition frequently seen in young women which is characterized by a pale skin, indifferent appetite, constipated bowels, disturbed sleep, clammy perspiration, indescribable abnormality of sensibility and a changed social and moral nature, or does he mean that morbid state in which weariness and languor and aching back and "can't exercise" are the salient features? Whichever he may mean I am persuaded from the tenor of his communication that his patient is the victim of one of the protean forms of hysterical disorder. The doctor does not hint at the possibility of grave central lesions, and the long period of continuance, as well as the age of the patient (whom I assume to be young) argue strongly against the probability of such lesions. The patient is not, then, the subject of serious organic spinal disease. Excluding this, what can be the nature of her disease? I am persuaded, by study and observation, that nine cases out of ten denominated "spinal nervous prostration" are really cases of hysterical affection. Dr. Phipps could not have more accurately described three cases which recently occurred in my own practice than he has done in this description of his own. The "quivering confusion," the numbness, the sleeplessness, were all present. One of these cases was in a man distracted—almost crazed—with family trouble and dissension. He brooded with unremitting anxiety over his unhappy lot, and by slow gradations became the victim of as pronounced a type of hysterical disorder as one ever sees in woman. The chief characteristic of his case was the "quivering confusion" which Dr. Phipps' patient complains of. This I have found a frequent accompaniment of hysterical affections, and especially in that class of cases whose muscular action is restrained by volitional control—where training and education and natural instinct combine to give improper conduct, on the part of a husband or wife, a most revolting significance. It is in the intensely nervous and erethitic subjects that those peculiar phenomena of hysterical disease manifest themselves. In further illustration of the same point I will cite case number two: A married lady with a family, whose husband was addicted to wild excesses, consulted me for strange sensations in the arms and lower extremities. She said it was a "shaking" sensation. This patient was a woman of great natural nobility of character, and she would learn of her husband's carousals with the utmost composure—apparently indifferent to his good or ill behavior. She repressed the expression of her emotions by strong volitional effort, but the emotion itself she could not

repress, and at odd times and in odd places it would break forth in this "shaking" sensation which unfitted her for any duty. In examining this patient with the æsthesiometer I discovered very marked alteration of sensibility in the direction of anæsthesia. She knew that the sequel to every attempt at emotional repression would be this subjective "shaking," and so informed me, but when I, unwisely, hinted at the probability of hysteria being present she resented it with energy. My third case was in a married woman who was passing through the critical period of her life. Her symptoms were very similar to those of the case preceding, except that these subjective nervous phenomena were more general, and especially marked in the abdominal region. I believe partial anæsthesia is a pretty constant associate of these conditions, and though Dr. Phipps does not say so, I have not much doubt that it is also associated with his case. But his patient is an invalid, and has been one for six years. He does not say why, except that she has "spinal nervous prostration." But that is enough, for here we find the recruiting ranks of female invalids. Disappointed hopes, gloomy prospects, vexations, griefs and kindred factors are potential in the causation of "spinal nervous prostration," or (to use a correlative phrase) in the causation of hysterical disorders. Dr. Phipps says the "quivering" sensations come at irregular intervals, and without apparent cause. Has he looked beneath the surface for their cause? Is he sure that no morbid mental or emotional state underlies these curious phenomena?

Has he satisfied his mind that no social or moral influence has aught to do with their production? Is he sure his patient is not hysterical? It is frequent that in hysterical subjects altered sensibility, even complete anæsthesia extending to the deeper tissues, to the muscles, and even to the nerves of special sense, exists. It may be hemiplegic or paraplegic, it may involve a single nerve or be generally distributed. There is nothing in Dr. Phipps' case, as he has reported it, that will not be explained by the assumption of hysteria. There is nothing in the case, as reported, that points to anything else than hysteria. I wish the doctor had given us a fuller account of the case, but perhaps, he could not have said more in a lengthy article than he has said in his one phrase "spinal nervous prostration." There is much room here for investigation and "spinal nervous prostration," covers a multitude of ills which should be rigorously sifted and properly named. The books do not assist one very much in forming an intelligent opinion on these mixed subjects, and it were better that each physician carefully studied individual symptoms, and assigned them their proper place than that the whole should be maintained in a confused mass.

Dr. Phipps says he has not been able to relieve these distressing symptoms in his patient and we can appreciate fully his feeling. He does not say what he has tried in the way of remedies. In the few cases of my own referred to in this paper, relief was secured in every example by simple means. First of all, I urged a proper self-control insisting that without this co-operation I could not promise much. In the second case in order in this paper I employed daily electrolysis with very decided benefit. In each of the other cases I employed extract piscidia erythrina fluid, in one drachm doses, three times daily. This was continued for a great length of time notwithstanding that some effects of the Jamaica dogwood were not desirable. The purpose of its administration was never lost sight of, and the permanent good it wrought was more than gratifying. The third case in order was a distressing one, and it offered little hope for improvement when treatment was commenced. I have treated six cases of pronounced hysteria with the fluid extract of Jamaica dogwood with entire satisfaction. On page 379, September number of the GAZETTE, it is stated that, "as regards remedies in this neurosis, *i. e.* Hysteria, everything may fail and everything may succeed." This is true, and failures are more frequent than successes. But I have never employed a remedy which yielded equally satisfactory rusults with Jamaica dogwood. I want to suggest to Dr. Phipps that (unless he has done so) he shall forthwith resort to the employment of this remedy in the treatment of his case, and report the result (whether good or ill) to the GAZETTE, I have greater faith in this new remedy than in the much and I think overlauded bromides. These may influence certain symptoms, but as to a curative action I am exceedingly doubtful. Valerian —as is well known—will influence the hysterical state, but how many cases have been cured by its use? I am exceedingly anxious to hear reports upon the influence of Jamaica dogwood upon hysteria. As I have no doubt Dr. Phipps case is such a one I hope he will faithfully (in the interests of his patient and advancing therapeutics) give it a trial and place the result before the readers of the THERAPEUTIC GAZETTE.

721 South 22d St.

Diphtheria, its Nature and Treatment.

BY DR. FR. ECKLUND, MEDICAL OFFICER SWEDISH MARINE SERVICE, STOCKHOLM, SWEEDEN.

I RECEIVED several weeks ago, through the kindness of that earnest worker Dr. Henry B. Baker, secretary of the Michigan State Board of Health, a reprint of information on diphtheria gathered by the THERAPEUTIC GAZETTE through its admirable plan of collective investigation. I am deeply impressed with the great value which must attach to such a method of investigation, and although, unfortunately for me, I did not have an opportunity of contributing my mite at the appointed time, I trust that it may not yet be too late to secure an appearance in your valuable journal. My views are based on observation and experience which while sufficient to convince me may, possibly, not have been sufficiently extensive to satisfy the requirements of the severe critic. I am, nevertheless, of the opinion that the general adoption of the plan of treatment which I shall recommend, would be attended by a general reduction of the death-rate of that too fatal disease, diphtheria. I also venture to hope that the views which I shall submit may throw some light on other moot points in connection with the disease.

Concerning the morphology of diphtheritic contagium, microscopical examinations have taught me that its integral parts are filaments of mycelium and micrococci. The former are hyaline, of unequal length, their diameter varying from 0.5 μ. to 1 μ. with irregular contours as if broken here and there and inexactly joined again. The micrococci

are extraordinarily minute, their diameter not exceeding 0.5 μ. Common features of the filaments of mycelium and the micrococci in question are: 1st. They multiply with excessive rapidity and in enormous quantity. 2d. They appear as parasites on the red blood cells, which they despoil of their oxygen; this concerns especially the micrococci, which in innumerable multitudes infest the red blood cells. 3d. They keenly demand oxygen both for life and propagation. 4th. They secern a very poisonous protoplasm, analogous to the ptomaines (cadaveric alkaloids). It is known, that these septic matters cause blood-poisoning and excercise a highly deleterious influence on the nervous system. Now it is the question to find out a remedy, that at the same time arrests the development of the microparasites, neutralizes the septic alkaloids and conserves the nervous forces. Such a remedy I claim we possess in the diluted phosphoric acid. After preliminary evacuation of the bowels by means of castor-oil, I prescribe usually after the following formula:

℞ Acid phosphoric, dil. 20 grm.
Syrup rub. idæi, 30–60 grm.
Aquæ destillat., 600 grm.

M. Sig. Give a teaspoonful three or four times every hour. This mixture is quite palatable and is very willingly taken even by the little ones.

In addition to this internal remedy we have another, if possibly much more powerful remedy to strengthen the nervous forces and to improve the formation of the blood, viz., hydrotherapy. I make free use of compresses of cold water, alike to the neck and around the whole abdomen. For the former I employ say a handkerchief wrapped eight-fold, which is well squeezed out in ice cold water and changed every fifteen minutes. The envelops of the abdomen are made with a sheet, for children, wrapped four-fold, and in a length of 0.6 meter. This is dipped in water of 15° to 18°C., well squeezed out and steadily applied about the whole abdomen, being changed every hour or two. At higher fever temperatures colder water is employed for the envelops.

In connection with the above I essay to nourish the patient the best I can. To this end I employ a "cordial," composed in the following manner: two fresh eggs, whites and yolks, are thoroughly mixed in a beer glass, by whipping together with finely-powdered cane-sugar. The half of the remaining unfilled part of the glass is filled with ale and the glass then filled with porter. Instead of the ale and porter one may add a genuine sherry-wine to the mixture of eggs and sugar. Of this cordial the child gets as much as a teaspoonful three times in the hour, or even more frequently. I employ also with success small clysters of a strong infusion of coffee.

For local treatment the important problem is to apply such a disinfectant as will arrest the growing of the filaments of mycelium and the bifurcation of the micrococci, and one which is at the same time highly diffusible, so that it may immediately antidote the pernicious property of the protoplasm of the diphtheritic microparasites. The most efficacious agents to this end, in my little experience, are thymol and the corrosive sublimate. For older children (9 to 15 years) I use these two remedies together as a gargle, after the following formula:

℞ Thymol, 0.5 grm.
Hydrargyri, chloridi corros., 0.6 grm.
Aquæ dest., 600 grm.

M. Sig. Gargle four times every hour.

In younger children I apply with a pencil of camel's hair every hour to the diphtheritic membranes of the throat, a solution of thymol after the following formula:

℞ Thymol, 1 grm.
Spiritus concentrati, 20 grm.

M. Sig. Apply to the diphtheritic spots of the throat every hour.

The prophylaxis and the hygienic treatment of diphtheria are of capital importance. Concerning the former it is my opinion that the germs of the diphtheria are contained in the walls of the habitations, where they are imported with the mortar (the sand). There they multiply until their protoplasm becomes highly poisonous, acquiring septic properties by absorbing the confined air and the foul transpirations of the inhabitants. Being then inhaled by the inhabitants whose force of resistance, particularly in the case of the little ones, is much diminished by the continuous respiration of their own putrid exhalations, the germs find favorable soil for their growth. From the walls the germs are carried in the air of the dwellings by draughts, and from the floors by means of the housemaid's whisk or broom, etc. Fresh air exerts a decided prophylactic influence, at once invigorating the tissues of the body, especially its nerves and muscles, and extenuating the deleterious properties of the diphtheritic microparasites. Under plentiful ventilation of the nurseries and favorable hygienic conditions, we observe that epidemic diseases, as scarlet fever, measles, etc., are either eradicated or vested with a much milder character, whereas the severest cases occur where the organisms of the little ones are already saturated by the continuous respiration of stinking effluvia. It is because of these and the above-mentioned reasons, that the best success is achieved in cases of diphtheria gravis in the summer months, when it is possible to have all the windows open night and day, or to let the little ones stay in the fresh air during the days. During the cold seasons of the year, especially in the unsanitary conditions of our dwellings, diphtheritic children are, as a rule, poisoned by night with the excrementitious gas from themselves and the other inhabitants.

Cascara Amarga.

By C. W. Tangeman, M. D., Cincinnati, Ohio.*

CASCARA AMARGA, first brought to the notice of the profession by Prof. Atkinson, has been used now about four or five years. It has been highly recommended by good authorrty in a number of diseases, but the one in which it seems to promise most is syphilis. It is specially valuable because it can be given where other remedies have failed. Specifics in medicine are rare, nor do we claim that cascara amarga is a specific in anything, but it can easily be demonstrated, clinically, that it is a powerful alterative. Until now mercury, in some form, has ranked foremost as a remedy in the treatment of syphilis. Some few authors and a great many patients are opposed to its use. To quote the language of Prof. Boeck, "it is a devilish remedy." and his ambition was to convince some of the physicians of London, by actual experiment, that they

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could treat this disease equally well, if not better, by the use of other remedies. This statement was made when there was no other drug to offer in its stead that was efficient. Were that statement made at the present time, it would sound more plausible. Who will doubt the assertion that mercury has been the cause, directly and indirectly, of a great many diseases? If we cannot relieve our patient, were it not better to let the disease be the cause of death than to kill him with our drugs? This is not intended as a blow against mercury or as an argument why we should use a certain other remedy to the exclusion of mercury. The object in view is to show the profession that they can obtain a remedy which will act very favorably in cases where mercury is not tolerated. This new drug certainly has some good qualities which cannot be overlooked. You cannot injure your patient by the use of it; you will not make his condition worse than it was before he made application for treatment. I presume, in many instances, mercury was prescribed because the physician did not know what he could substitute and expect any effect whatever on the specific disease. The usual effects of mercury on the system were loss of appetite, derangement of stomach and bowels, etc. From cascara amarga we expect just the opposite. It is a tonic, alterative, and a diuretic, besides possessing specific properties in a high degree. As a rule, individuals suffering from specific disease are broken down constitutionally, or at least a goodly number of them are. What effect would the administration of mercury have? Certainly the most pernicious effect. Now we are offered a drug that has great eliminative powers, of vegetable origin, and well borne by the patient. It has been most largely used in old chronic cases, and with satisfactory results; but even in acute cases, or primary syphilis, the results are good, as the following case may indicate:

Henry K., aged 28, German, carpenter by occupation, made application for the relief of a chancre, which was about the size of a large pea; situated on the prepuce. Patient was very anæmic (though formerly quite healthy), weak, and covered with a pustular eruption. The lymphatic system was involved; some of the glands were enlarged, especially those in the groin, amounting to a bubo on one side. Patient was put on cascara amarga at once, to the exclusion of all other remedies, one teaspoonful three times a day. Improvement was marked; the eruption now disappeared, the bubo did not go to suppuration, and the initial lesion healed rapidly.

But here comes the most interesting portion of the case: The appetite that was wholly lost returned, bowels that were constipated, acted very nicely under the influence of this drug, and the patient, in the course of a week, felt buoyant. Altogether, that one case consumed about one pound of cascara amarga. In three weeks he was discharged as cured. During the whole course of treatment there was not a single complaint that the medicine was affecting him badly, which is frequently the case where mercury is given, and often long before your case is ready to be discharged. It is a very mild remedy, and in reality should be prescribed prior to the employment of any other specific remedies, instead of being resorted to only when our old stand-bys fail to relieve.

Case 2 was one of gonorrhœal rheumatism, where the patient had suffered all the pain peculiar to this disease for months. He was a sporting man and had led a sort of a dissipated life, though he was not broken down in strength. He had tried all the remedies, both patent and regular, he claimed, without a particle of relief, not even as much as to relieve the pain sufficiently to obtain one single nights' sleep; the seat of the trouble was mainly in the knees and ankles; they were sensitive to the touch. Such was, in short, the patient's condition when he made application for relief. The firm of Parke, Davis & Co. had supplied me a sample of the above drug, and although it was a little out of my domain, I concluded to embrace the opportunity and determine the effects of amarga in this most tedious trouble, as those will know who have ever attempted to treat gonorrhœal rheumatism.

℞ Cascara amarga, (P., D. & Co.),
Jamaica dogwood, ℥ij.

M. Sig. One teaspoonful every three hours in a little water was prescribed and the patient discharged with the request to return and report the results. Five days later he returned, and from the smile on his face I could readily read his condition; he could walk very much better, had slept soundly every night since he commenced taking the medicine, and the fact that is to be emphasized, is that his stomach was in good condition, which is more than ever can be said for mercury and iodide of potassium. The same prescription was given as before, and patient took no more medicine; he himself was surprised at the result, since he had swallowed all the nostrums that had ever been advertised to have any specific effects.

To use cascara amarga as generally as some other drugs have been used we must naturally expect failures for a number of reasons, because: 1, medicines are not tolerated with the same effect in all individuals; 2, not all patients will carry out a physician's directions accurately; and 3, it requires some tact in a physician to study the condition of the disease and habits of the patient and then select the remedies that are indicated. The question how does amarga act cannot as yet be answered. Dr. Roe, in the THERAPEUTIC GAZETTE some time ago stated that he thought it acted by "eliminating the specific element from the blood by the way of the skin and kidneys." This led me to administer it in the last described case. The results have been satisfactory, and if its exact physiological action is not known, we do know that clinically it has a powerful effect.

The fluid extract is the form that it is usually prescribed in, but I have at present the active principle of amarga under consideration, and before long may give the readers the exact physiological action of both the fluid extract and the active principle.

Jequirity in Trachoma.

BY E. B. RICHARDSON, M. D., MT. STERLING, KY.

HEREWITH please find notes of a case of trachomatous pannus treated by jequirity (abrus precatorius), and the result:

Patient, male, aged about 30 years, has been afflicted with granular lids for eight or ten years, and during that time had a great deal of treatment, comprising a course of three or four months in Cincinnati under a specialist. Has been under my care for six or eight weeks, during which time I applied sulphate of copper to the lids, and used unguent, hy-

drarg. oxidi. flav., atropia, zinc and boracic acid. His condition considerable improved, though vision was very imperfect in each eye. The right cornea was crowded with anastomosing vessels; indeed, he presented a case of very complete pannus. There were lymph deposits all over the cornea, and vision was not much more than perception of light.

The left eye had three vessels upon it with central albugo, vision sufficient to recognize objects, and No. xxx at three feet.

Having seen in the THERAPEUTIC GAZETTE an account of jequirity, I obtained an ounce of the beans, package No. 12,731, from Parke, Davis & Co., through W. F. Dickerson, druggist, and suggested to the patient a trial. He was very willing. I pounded six beans in a mortar with great difficulty (they were so hard and tough), to as fine a conndition as I could get them; put them in four ounces of water, and with an occasional shake macerated for 24 hours. Added four ounces of hot water, and, when cold, filtered. Thursday evening, August 30th, made application with camel's hair pencil to lower lid. No pain whatever was produced.

Friday, Aug. 31. Made application with pencil three times, as at first; no pain or other disturbançe, though at night the eye looked a very little red and watery.

Saturday, Sept. 1. Used the brush three times, and dropped some in the eye, also painted it over the surface of the upper lid, and gave the patient some of the solution to take to his room, with instructions to apply small cloths wet with the same over the lid.

Saturday eve the lids looked swollen and the eye red, and on everting the lower lid a slight mucous looking membrane was seen covering most of its surface.

Sunday morning, Sept. 2. Same application as on Saturday. There is more œdema and some pus in the discharge. He says that he suffered greatly during the night in all the right side of his head.

Sunday evening. More pus in the discharge, some shreds or flakes mixed with the discharge; lids more swollen and purple; some chemosis also this evening.

Monday, Sept. 3. Some applications through this day. The upper part of the night cheek swollen and purple; lids very much swollen, difficult to open for inspection of the eye; considerable chemosis, but it looks as if the subconjunctival infiltration was charged with lymph, that is, it appeared to be firm and hard, and not soft looking like ordinary chemosis. The cornea was ash-colored, and no sight at all in the eye; shreds and pus still flowing freely.

Monday eve. All the above symptoms aggravated; one more application with the brush, and stopped the applications.

Tuesday, Sept. 4, morning. Patient had a restless and painful night; eye and lids in same condition as evening before.

Evening. Not much change; eye still discharging pus and shreds; the pain has abated.

Wednesday, Sept. 5. Eye looks a little better; no pain; left for home, 25 miles distant, this evening.

Saturday, Sept. 15. Walked into the office, and in answer to inquiry, said his right eye was better than the left. On inspection I was indeed surprised to see the result. I could see the whole of the iris and the enlarged pupil (I had given him atropia to drop in the eye) at a glance. There was not a sign of a vessel upon the cornea. A central cloud, though very light, was upon its centre. Patient is delighted with the result, and as soon as he finds time, I am to try the same treatment on the other eye. The lid looked marbled with numerous small depressions, showing the absorption of the granulations. I think the dis appearance of the vessels forming the pannus was caused by their strangulation from the tense chemo sis.

Defibrinated Blood as a Rectal Aliment.

BY E. P. HURD, M. D., NEWBURYPORT, MASS.

I HAVE had success with the defibrinated blood used in the form of rectal injection in a bad case of gastric ulcer where nothing could be retained on the stomach. The patient, a woman of 30, has now been nourished five days on nutritive enemata, nothing being employed but the defibrinated blood; this is rubbed up with warm water in the proportion of an ounce to the half pint. An enema of six fluid ounces of this nutrient given every six hours is retained without difficulty and seems to give support and strength in a marked degree. This evening for the first time in five days the patient has kept down a little milk and lime water.

The great advantage of defibrinated blood over ordinary nutritive enemata would seem to be its ready solubility by the mucous membrane of the rectum. I have for the past few years had considerable experience with nutrient rectal injections, and never before have been able to continue them so long.

My impression is that here is a wide field of usefulness for this preparation. A handy and efficient nutrient is wanted for use *per rectum*, in cases where life must be sustained in this way if sustained at all. Defibrinated blood is in the form of brilliant laminated crystals, resembling the citrate of iron, and will keep any length of time, almost, if exposed to the air. (A can on my office table has been open ten days, and has undergone no change though the weather has been warm). If the preparation tasted as well as it looks it would be invaluable for making soups or broths for invalids. Its insipid taste certainly makes it objectionable for this purpose, and patients naturally revolt against taking as food what they know to be a solution of dried blood. The insipidity may be in a great measure overcome, as I have found, by mixing the defibrinated solution with about an equal quantity of strong beef-tea, and it is seldom necessary to tell the patient that you are giving him blood. I have tried it in three cases where it was well borne, and proved an acceptable nutrient; in three other cases it was refused as soon as tasted. One patient, a female suffering from cancer of the womb, and thoroughly anæmic from loss of blood, took the defibrinated blood freely for a day or so; then her stomach revolted against it, and I have not since been able to administer it in this case.

I hope at some future day to be able to report something more valuable *à propos* of this new nutrient pharmaceutical product, which certainly seems entitled to a place among our therapeutical resources.

Theoretically this preparation contains all the nutritive elements needful to sustain life, and in a very assimilable form.

Practically it must be of utility in all cases of extreme prostration where the digestive forces are low, and there is an indication for some powerful liquid that can be speedily appropriated.

I do not know why we have not in this defibrinated blood all the conditions of a good material for transfusion. We have here an albuminous saline fluid, absolutely free from fibrine and corpuscles, presenting no danger from the formation of emboli by agglomeration of globules, or production of coagula.

Asclepias Incarnata as a Diuretic.

By G. A. Harman, M. D., Lancaster, Ohio.

ALLOW me through your columns to give to the profession a new medicinal property of what I thought for a time was a new remedy, but which proves to be already in the market in the form of a fluid extract, made by Parke, Davis & Co. I refer to the indigenous plant commonly known as wild or white Indian hemp, and botanically as asclepias incarnata. The root is the part used, which yields all its virtues, at least, as a diuretic, to water.

Its value as a dinretic became known to a gentleman of this vicinity, who kept it a secret for some time and sold it as a remedy for dropsy, calling it dropsy root. I finally "dropped upon it," and have since frequently used it with very gratifying results. It is used here in the form of an infusion of indefinite strength, a bunch of roots as thick as your thumb being put into a pint or more of water, and made into a tea, of which one or two ounces are taken every few hours till the amount of diuresis desired is produced.

Asclepias incarnata is certainly a reliable diuretic, and well worthy the confidence of the profession. I have found nothing equal to it. It is much better than digitalis, squills, spir. nit. æth., singly or combined. It agrees perfectly with the stomach, and has no poisonous effect, as is clearly shown by the freedom with which it has been taken. Am not sure of the manner of its action, but believe it to be a direct stimulant of the kidneys.

The following few cases are illustrative of its action:

Case 1. Treated daughter, æt. 11 years, of Mr. S., for pleuritis of left side. The effusion was excessive, filling the whole cavity, compressing lung and crowding heart over to right side. Gave diuretics, cathartics, iodide potas., hydrarg. etc.; applied blisters and tr. iodine without avail. Was considering the propriety of thoracentesis, when some neighbor suggested "dropsy root tea," which was given without my being consulted. An abundant diuresis was produced, and a rapid absorption of the effusion promptly followed, with some loss of reputation to me.

Case 2. That of an old German, who loved his beer and whisky well. He had suffered for many years with a "swimming of the head," accompanied with palpitation of the heart and bloating of stomach. He had sought help of many physicians in vain. During one of his attacks, which was worse than any before, he fell, and I was summoned. Found him complaining of dizziness of head, pale, heart feeble and irritable, and stomach tympanitic. Knowing his habits, I enquired for his urine. He was passing but a few ounces a day, and that was heavily loaded with phosphates, but contained no albumen. Gave ergot, nux vomica, tr. ferri chlor. with diuretics. He was soon about again. He limited his drinks for a while, but soon relapsed into his former habits, with a return of his difficulty. In the meantime he had learned that his trouble depended largely on the condition of his kidneys. When they ceased to act he had swimming of the head, etc. Some friend suggested "dropsy root," the infusion of which he takes when urine is greatly diminished and head begins to swim. A free flow of urine results, and he is better again. Have seen him but once in several years. That "dropsy root" has kept many dollars out of my pocket, but, thanks to P., D. & Co., we can now prescribe fluid extract asclepias incarnata, and our patients will not know that that wonderful medicine with the formidable name grows in their own pasture lots.

Hospital Reports on New Remedies.

From Charity Hospital, New York City.

Yerba Santa.

By W. S. Gottheil, M. D., New York.*

WILLIAM BROWN, æt. 38, single, Irish, laborer, admitted Jan. 30, 1883. Patient gives a history of lung trouble extending back a year or more. Examination shows pleurisy of the left side, with small amount of effusion, and also evidences of phthisis at both apices. Temperature almost normal, no sweats, and but little embarrassment of respiration.

Feb. 6. Coughed all last night.

℞ Fl. ext. yerba santa, ʒ ss t. d., and general treatment

Feb. 7. Feels weak, ordered to bed, coughs much.

Feb. 8. Cough better this morning, feels that the cough medicine has done him much good, temperature 101½°.

Feb. 9. Cough slightly worse again, continue treatment.

Feb. 12. Cough improving, does not have nearly so much of it as he used to.

Feb. 13. Improvement continues; coughs yet, but nothing like what he did; continue treatment.

Feb. 14. Cough getting better every day; feels well, temperature normal.

Feb. 15. Some cough last night again, but still he thinks he is mending every day.

Feb. 16. Feels very well; cough does not trouble him at all; throat sore; is getting hoarse; no more yerba santa to be had.

Feb. 17. Coughed a good deal last night.

Hugh Burke, U. S., æt 24, single, laborrer, admitted Feb. 5, 1883.

Patient presents himself suffering from phthisis, which has advanced at the left apex to the stage of excavation. On admission, besides the physical signs, there is a temperature of 100¾° F.; pulse of 106, respiration of 30 to the minute. The man's general condition is bad, and he suffers especially from a severe and hacking cough.

Ordered fl. ext. yerba santa, ʒ ss t. d.

*House Physician Second Medical Division Charity Hospital, New York.

Feb. 8. Cough is breaking, coughs less and raises more easily; feels sure the medicine is doing him good.

Feb. 9. Coughs but very little; temperature 100°; respiration 30; pulse 90.

Feb. 13. Improvement as regards the cough, which used to keep him awake at night, is decidedly maintained; feels altogether better since he has been taking yerba santa; pulse 94.

Feb. 16. Pulse 90; respiration 24; temperature 90°; very comfortable; coughs very little indeed.

Feb. 22. Same; discharged improved.

Ellen Frederick, æt. 34, Nova Scotian; admitted Nov. 24, 1882. Patient had suffered nearly three months from present sickness. Examination showed phthisis in first stage, and slight pleurisy at both apices. After varying treatment she was, on Jan. 20, 1883, put on fl. ext. yerba santa 3 i t. d., for her cough, which was quite distressing.

Jan. 24. Does not think medicine nearly so good for her cough as the last one (mist. glycyrrh. co.)

Jan. 27. Coughs just as much as ever; yerba santa stopped.

She was discharged Feb. 27, improved.

Patrick Gash, æt. 40, Irish, widower, clerk, admitted Feb. 6, 1883.

Diagnosis—Phthisis, third stage.

Patient has suffered for over two years from the disease. His condition on entrance was very bad—great emaciation, marked hectic, etc. Besides ordinary symptomatic treatment he was, for the relief of a most distressing cough, put on fl. ext. yerba santa 3 ss t. d.

Feb. 12. Cough somewhat easier; general condition unimproved.

Feb. 15. Cough easier; continue yerba santa.

Feb. 18. Sinking.

Feb. 19. Died at 11.25 A. M.

Michael O'Hare, æt. 45, Irish, single, fireman, admitted May 2, 1882.

Case of phthisis, third stage; hemorrhages, night sweats, etc., were abundant. Treatment was symptomatic.

Feb. 6. Doing very poorly; getting used up by the terrible cough; sputum blood stained all the time; his usual dose of sol. morph. U. S. P. 3 ii t. d., was continued, but all other medicine was stopped, and he was put on

℞ Fl. ext. yerba santa, 3 ss t. d.

Feb. 8. Coughs same; no better.

℞ Fl. etc. Yerba Santa 3 i t. d.

Feb. 10. No result from yerba santa; stop it.

Feb. 28. Put on fl. ext. chekan 3 i t. d., for cough.

Mar. 1. Chekan disagrees with his stomach, he vomits it; stopped.

Mar. 13. Again was put on yerba santa gtt. xv. t. d.

Mar. 15. Cough as bad as ever; yerba santa makes him vomit; stopped; ordinary treatment resumed.

William Butler, æt. 44, widower, Irish, barber, admitted Jan. 4, 1883.

Patient has suffered from asthma, emphysema and chronic bronchitis for 20 years, and on entrance he exhibits their symptoms and physical signs to a marked degree. He has been a hard drinker all his life, and has been on several prolonged sprees not very long ago; has had trouble with his water for some time, passing large amounts of it, and having to get up often at night to urinate. Has no other symptoms of Bright's disease, however, and careful examination of his urine disclosed nothing abnormal; its usual quantity was 100–120 ℥ in 24 hours; there was no sugar. Cough was not a prominent symptom till Jan. 19, when he began to complain of it very much.

Ordered yerba santa 3 i t. d.

Jan. 22. Cough marvelously improved, feels certain that the yerba santa did him much good, continue treatment.

Jan. 23. Coughs very little indeed, expectoration easy and free; other treatment was then resorted to; he was discharged Feb. 27, in very fair condition of health.

Peter Miller, æt. 34, U. S., single, peddler, admitted March 3, 1883.

Patient gives a history of sickness extending back only 9 weeks. Examination reveals phthisical process, advanced at both apices to the formation of cavities. Temperature 102 1-5°; respiration 30; pulse 120.

Mar. 12. Temperature remains high. Antipyretic treatment ordered. For the relief of his cough was given

℞ Fl. ext. yerba santa, gtt. xv t. d.

Mar. 13. Coughed a little less. Yerba gtt. xx t. d.

Mar. 14. Cough easier. Sweated some last night.

Mar. 16. Little cough. Continued yerba santa.

Mar. 17. Yerba santa makes him vomit. Ordered stopped.

From that time till the date of his death, March 21, treatment was of the ordinary kind.

James Hamilton, æt. 29, carpenter, admitted Jan. 22, 1883.

Patient enters hospital very much run down, with his legs slightly swollen, and a constant chronic cough. No kidney trouble is detected; examination of the lungs showed nothing but bronchitis. His general condition gradually improved under appropriate treatment. On March 12, since the ordinary cough remedies did not seem to afford him much relief, he was put on fld. ext. yerba santa, gtt. xv t. d.

Mar. 13. Cough unimproved. Yerba santa increased to gtt. xx t. d.

Mar. 14. Cough no better; if anything, it is getting worse. Yerba increased to 3 j t. d.

Mar. 15. Yerba santa has done him no good at all. Stopped. Treatment thenceforward presented nothing of interest.

Ida Stahl, æt. 27, Swiss, domestic, admitted Jan. 8, 1883.

Patient gives a phthisical family history, and has suffered from cough, emaciation, night sweats occasionally, for a year or more. Well-marked phthisis, second stage, was found. General treatment was resorted to with good effect, but she still suffered much from the hacking cough.

Jan. 20. She was ordered yerba santa, 3 j t. d.

Jan. 24. Feels very much better, cough easier and not nearly so constant. Ordered yerba santa, 3 ij t. d.

Jan. 27. Improvement in cough continues; likes the cough medicine very much. Continued treatment.

Jan. 31. Coughs very little indeed. Slight night sweats are re-appearing.

She was discharged March 16, in fair condition.

William Burke, æt. 17, Irish, peddler, admitted December 21, 1882.

Patient enters hospital suffering from phthisis, with excavation at right apex. Has been much exposed to cold and wet, and gives the ordinary history of the disease. Evening temperature was 1°—3° above normal. He improved to a slight extent under treatment, and on January 19, 1883, was ordered fld. ext. yerba santa, ʒ ss t. d. for his distressing cough, all other treatment save that of cinchonidiæ sulph., gr. xx t. d., being stopped.

Jan. 20. Complains of the bad taste of yerba; santa says it almost turns his stomach. Cough easier.

Jan. 21. Immediately after taking his yerba santa this noon (eighth dose), patient had a marked attack of hysteria, consisting of general convulsive movements without loss of consciousness, and followed by slight stupor. Cinchonidia, which he believed disagreed with him, was stopped. Continued yerba santa.

Jan. 23. Cough very bad yet. Hardly any result from drug.

℞ Yerba santa, ʒ j t. d.

Jan. 24. Medicine has done his cough no good at all. Ordered Mist. Glycyrrh. Co. and stimulants.

Patient died on January 26.

David Flynn, æt. 40, single, U. S., shoemaker, admited March 7, 1883.

Patient has suffered from phthisis for some years; examination shows consolidation at right apex; friction sounds are heard all over both chests, but especially low down on the right side. Little effusion. Treatment was of the ordinary kind.

Mar. 12. Cough very bad and much pain in right side of chest.

℞ Fld. ext. yerba santa, gtt. xv. t. d.

Mar. 13. Cough still very annoying.

℞ Fld. ext. yerba santa, gtt. xxv t. d.

Mar. 14. Awake all last night from the cough.

℞ ʒ j t. d.

Mar. 15. Cough unimproved. Spits up abundant muco-purulent material. Ordered special pot. cyan. and morph. sulph. Stop yerba santa.

His symptoms improved considerably under the new medicine. Rest of history unimportant.

Michael McFee, æt. 45, Irish, watchman, admitted October 24, 1882. Patient has phthisis, third stage. Years ago he had syphilis and he shows on his body marks of a fading tertiary syphiloderm. Treatment was of the ordinary kind.

Mar. 12. Coughs very badly all the time; much pain in left side, where a recent pleuritic process has started up. Ordered mustard poultice locally and

℞ Fl. ext. yerba santa, gtt. xv, t. d.

Mar. 13. Never coughed so much in his life as he did last night.

℞ Fl. ext. yerba santa, gtt. xxv, t. d.

Mar. 14. Yerba santa does him no good. Cough no better.

℞ Fl. ext. yerba santa, ʒ j, t. d.

Mar. 16. Perhaps a little better; nothing decisive.

Mar. 19. Yerba santa nauseates him; stopped. Special treatment stopped.

Charles Rothmaier, æt. 33, German, single, lithographer, admitted February 14, 1883. Case of phthisis, second stage, marked by moderate fever, emaciation, night sweats, gastric disturbances and hæmoptysis. Treatment presents nothing special until

Mar. 12. Feels better; vomiting, which has troubled him for several days past, is stopped. Cough very bad, especially night and morning. All other treatment stopped. Ordered

℞ Fl. ext. yerba santa, gtt. xv, t. d.

Mar. 13. No result as yet. Continue treatment.

Mar. 14. Coughed less and feels better since he is taking yerba. (A regular evening dose of chloral, which he had taken for three weeks, was stopped when he was put on yerba santa.) Night sweats again. Ordered night sweat pill (bellad. ext. and ox. zinc.).

Mar. 15. Commenced to vomit again. Yerba santa disagrees with him; stopped. Special treatment stopped here.

William J. Scott, æt. 55, N. S., carman, admitted December 28, 1882. Patient entered hospital suffering from acute Bright's disease. He did very well under treatment, though a gastric derangement was left that proved obstinate. Also gave history of having had chronic bronchitis for some time previous.

Jan. 19. Passed 64 ounces of urine yesterday. Bowels regular, feels well, but has considerable cough.

℞ Fl. ext. yerba santa, ʒ j, t. d.

Jan. 23. Slight result, if any, from cough medicine.

Jan. 25. Medicine does not affect cough at all. Yerba santa stopped.

Patient was discharged cured by the end of February.

James Conway, æt. 35, U. S., widower, colored, stableman, admitted January 23, 1883. Transferred from throat ward March 12, 1883. Patient has been treated for three weeks in the throat ward for phthisical laryngitis. The process in the lungs has advanced on both sides to excavation. On March 14 he was put on fluid extract yerba santa gtt. xv, t. d., for his cough. Night sweats were severe, and a pill of atropia and tannic acid was ordered for them.

Mar. 14. Cough is no better in any respect. Ordered

℞ Fl. ext. yerba santa, gtt. xxv, t. d.

Mar. 15. Cough no better.

℞ Fl. ext. yerba santa, ʒ j, t. d.

Mar. 16. Commenced to vomit immediately on taking yerba santa. Stopped.

William Flannigan, æt. 35, Irish, widower, plasterer, admitted March 3, 1883. Case of chronic bronchitis. On March 12 was put on fluid extract yerba santa, gtt. xv, t. d., for his distressing cough.

Mar. 13. Cough very bad. Yerba santa gtt. xxx, t. d.

Mar. 14. No better. Yerba santa ʒ j, t. d.

Mar. 15. Cough no better; yerba santa nauseates him. Stopped.

William Kelly, æt. 42, Irish, laborer; admitted September 20, 1882. Patient is suffering from phthisis, which has advanced to the third stage. After varied treatment he was, on January 19, 1883, put on fluid extract yerba santa ʒ ss t. d.

Jan. 23. Thinks the cough medicine has done him much good. Coughed but little last night; slept well; temperature 98½°.

Jan. 25. Improvement continues. Supply of yerba, however, has run out. Ordered mist. glycyrrh. co.

Mar. 13. Feels fairly well to-day. Coughs a good deal, especially during the day. Ordered fluid extract yerba santa gtt. xxv t. d.

Mar. 14. No change in cough.

Mar. 15. Nauseated by yerba. Stopped. Other treatment unimportant.

Patrick Carron, æt. 29, single, Irish, laborer, ad. July 25, 1882.

Patient has had phthisis for two years. On his entrance into the hospital no cavities were discovered; later on they were found. Treatment was of the usual kind.

Jan. 19, 1883. Put on fl. extract yerba santa, ʒ j t. d., for his cough.

Jan. 26. Yerba santa helped his cough considerably, he says, but since the oil and iron are stopped his appetite is gone.

Ordinary treatment was then resumed.

James Burke, æt. 31, English, laborer, single, admitted March 12, 1883.

Case of phthisis, 2nd stage, consolidation of left apex. General condition fair, ordered oil and tonics.

March 13. Cough is very bad, both night and day; spit up a little blood yesterday.

Ordered:

℞ Fl. ext. yerba santa, gtt. xv, t. d.

March 14. Cough no better in any respect, cannot sleep for it at night.

Ordered:

℞ Fl. ext. yerba santa, gtt. xxv, t. d.

March 16. Yerba santa makes him sick; stopped.

Ada Raymond, æt. 34, U. S. domestic, admitted Nov. 17, 1882.

Patient is suffering from a cirrhotic liver. She also had an attack of otitis media during her stay in the hospital. A chronic bronchitis troubles her much, and on March 14, 1883, she was put on yerba santa, ʒ ss, t. d., for her cough.

March 23. Cough seems slightly improved.

Ordered:

℞ Fl. ext. yerba santa, ʒ j, t. d.

March 29. No result from yerba santa, stopped.

Ann McCarthy, æt. 39, Irish, widow, domestic, admitted March 15, 1883. Case of chronic bronchitis since last fall. Cough very annoying.

Ordered:

℞ Fl. ext. yerba santa, ʒ ss, t. d.

March 23. Doing very nicely, cough much better, almost gone; continue treatment.

March 29. Well, practically.

Rose Ebling, æt. 29, German, domestic, admitted Jan. 26, 1883.

Phthisis, second stage. After various treatment she was, Feb. 25, 1883, put on:

℞ Fl. ext. yerba santa, ʒ j, t. d., for cough.

Feb. 28. Cough getting worse:

℞ Fl. ext. yerba santa, ʒ ij, t. d.

March 2. Spits up even more than she did.

March 5. Yerba santa a failure in this case.

On March 14. Yerba santa was again tried with like results.

Mary Fitzgerald, æt. 38, Irish, married, domestic, admitted March 20, 1883.

Phthisis, second stage. Cough severe.

Ordered:

℞ Fl. ext. yerba santa, ʒ ss, t. d.

March 24. Does not feel well; no improvement.

March 29. No result on cough from yerba santa; stopped, and other treatment resumed.

Minnie Walsh, æt. 21, Irish, single, domestic, admitted Jan. 30, 1883.

Phthisis, second stage. Treatment was of the ordinary kind till Feb. 28, when, complaining much of cough and smothering at night, she was put on fl. ext. yerba santa, ʒ i t. d.

Mar. 2. No change in cough, yerba santa increased to ʒ ss t. d.

Mar. 3. Cough just as bad and hard as before.

Mar. 7. Same.

Mar. 10. No improvement at all, failure of yerba santa; stopped, and other treatment began.

Annie McAvoy, æt. 40, Irish, domestic, admitted Feb. 6, 1883.

Patient went through an attack of croupous pneumonia in the hospital; resolution took place very well; treatment was simple stimulation; a slight cough remained.

Mar. 14. Put on yerba santa ʒ ss t. d.

Mar. 23. Doing nicely, but very little cough, yerba santa ʒ i t. d.

Mar. 29. Cough almost gone, stop yerba santa, tonics ordered.

Minnie Johnson, æt. 22, Irish, domestic, admitted Nov. 3, 1882.

Pattent has phthisis and syphilis, both of the third stage. She was a bed-patient from the first, and night sweats, hectic fever, etc., were marked; treatment was general.

Jan. 10. Ordered special of bismuth, etc., for diarrhœa, and gtt. x eucalyptol at night for the distressing night cough.

Jan. 13. Diarrhœa almost stopped.

℞ Eucalyptol, gtt. xx at night.

Jan. 20. Drops are doing her good, she feels sure; cough not so bad, and sleeps better.

Jan. 23. Very comfortable; cough soft, otherwise in statu quo.

Jan. 27. Eucalyptol stopped, moderate result.

Jan. 31. Was put on yerba santa ʒ i t. d. for her cough, also pill of ac. tannic and cupric sulphate for diarrhœa, which had recommenced.

Feb. 8. Does not think yerba santa helps her cough at all,

Feb. 10. Temperature rising again, cough very bad at night, stop yerba santa.

Patient died Mar. 9, 1883.

Wm. H. Walker, æt. 69, widower, U. S., fireman, admitted Jan. 2. 1882.

Patient entered suffering from phthisis, second stage; there was no fever, and general condition was fair. On Jan. 8 he was put on eucalyptol (Merck's) for his cough and expectoration, gtt. v t. d.

Jan. 10. Feels easier in his chest since taking the drop.

℞ Eucalyptol, gtt. x t. d.

Jan. 12. Says he can taste his medicine all day in the sputum he coughs up, cough is much easier, expectoration free.

Jan. 15. Cough is very slight now, indeed.

Jan. 19. No eucalyptol has been obtainable since

the last date. As his cough had became quite bad again, he was ordered

℞ Fl. ext. yerba santa, ʒ ss t. d.

Jan. 22. Is sure he feels improvement in cough from the last medicine; not nearly so much tickling in his throat, and cough as formerly.

Jan. 25. Doing very well, little cough, yerba santa changed to fl. ext. chekan ʒ i t. d.

Jan. 29. Slight result only; coughs rather badly.

Jan. 30. Vomited the chekan; stopped.

From that time till Feb. 15, when he was discharged, his cough was much worse; he would have liked to have had yerba santa had it been available.

John H. Pounding, æt, 44, U. S,, single, cigar-maker, admttted Dec. 14, 1882.

Patient has had asthma for the past 18 years. Examination reveals emphysema to a marked degree, with bronchitis. Soon after his entrance into hospital he had a severe attack of asthma, and had them recurring at varying intervals during his stay; treatment varied.

Jan. 9, 1883. Considerable dyspnœa again, coughs much, ankles slightly swollen.

℞ Eucalyptol (Merck's) gtt. vt. d.

Jan. 11. Breathing very much easier, feels sure that the eucalyptol has done him much good.

Jan. 12. Up out of bed, slept well last night, continue eucalyptol.

Jan. 14. Supply of eucalyptol gave out; ordinary treatment resumed.

Jan. 18. Had a severe attack of asthma again last night, coughs up but little, did much better when he was taking the drop.

Jan. 19. Coughs very much.

℞ Fl. ext. yerba santa, ʒ ss t. d.

Jan. 20. Says the new medicine lessens the amount both of cough and of expectoration.

℞ Fl. ext. yerba santa, ʒ i t. d.

Jan. 23. Improving still, likes the yerba santa very much.

Jan. 24. Doing well; yerba santa, he says, loosens and clears his cough.

Discharged, much improved, Feb. 27.

Translations.

[All articles signed "T" are translated for THE THERAPEUTIC GAZETTE by C. W. Tangeman, M. D., Cincinnati.

Sulphide of Calcium in Dermatology.

Sulphide of calcium has been used for a number of years in America. Quite recently it has been recommended by Piffard in a number of affections of the skin. P. claims that it is the most powerful remedy in furunculosis that we possess at the present time. Ringer has recommended it for furunculosis more than ten years ago. Sulphide of calcium in doses of 0.006, every 1—2—3 hours, generally prevents the development of new attacks. Cane recommended it as being very efficient in certain forms of acne, which statement is confirmed by other observers. True, even this remedy sometimes fails in acne, but it is claimed that such failure is mainly due to the large doses that are given. Especially in acne this remedy cannot be administered according to any prescribed course, but every case must be treated as one of its own and the dose regulated according to the case. The extreme ranges between 0.0006 one or two times a day, and 0.06 frequently repeated. In a case of acne where the pustules suppurate rapidly, the dose must be quite small and not repeated very often; on the contrary, where pustulation and suppuration are slow, it can be given in larger doses until suppuration sets in, when it must be discontinued. In the above manner some of the most obstinate cases of acne, that have existed for years, can be cured more rapidly than in any other manner. Sulphide of calcium acts pleasantly in certain forms of eczema, for example, in acute and subacute impetiginous eczema. Here, again, the dose must be small in the acute form and medium in the subacute form. In pustulous eczema of the chin and cheek, and non-parasitic sycosis, the effects are sometimes really astonishing. This plan has reduced the time of treatment for this disease to about one-fourth. Author treated fifteen cases in the above manner with remarkable results.

In cases where there is an erysipelatous inflammation and swelling of the lips and nose in scrofulous children small doses given evening and morning soon give relief. With regard to the physiological action of sulphide of calcium, Piffard is convinced that it is the same as was given for mercury 30 or 40 years ago,—a very active and destructive remedy instead of constructive. The remedy is most frequently prescribed in pill form when given to adults, but in cases where pills cannot be taken, or when prescribing for children we are often compelled to administer it in powder or in solution. It is best dispensed in glycerine, but the mixture must be free from water. Unna confirms the experiments of P. In eczema, acne, furuncle, buboes and sycosis, he administers the remedy in the following manner:

Since so much stress is laid on the mode of administration we will give the formulæ of Unna:

FORM 1. PILLS.

℞ Calcii sulfurat. puri, 0.25
Carbonis animals, 1.00
Rad liquirit., 2.00
Ext. gentian, q. s., ut. ft.

Massa dura ex qua forment. pil. No. 50, obduce collodio.

FORM 2. SOLUTION.

℞ Calcii sulphurat. puri, 0.1
Glycerini exsiccati, 40.00
Liq. ammon. anis, 1.00.

M. S. 25 drops several times a day.

FORM 3. POWDER.

℞ Calcii sulphurat. puri, 0.05
Carbon animal, 0.20
Adde carb. animal, 1.00.
Div. in partes æquales, No. 10.

S. One powder 3 times a day in sugar.—*Centblatt. der Gessamt. Therapie.* T.

Jaborandi and Pilocarpine.

The treatise on this subject by Massei and Somma is a valuable addition to therapeutics. The leaves as well as the alkaloid have been used in diphtheria, croup and anasarca after nephritis scarlatinosa in children. This remedy like many others, was lauded to the skies, immediately after its discovery. Such drugs are proclaimed as panaceas for all

the ills that other remedies could not cure, but before long some are tumbled from their lofty perch, a great many of them are never thought of after, while those that meet a more liberal fate, have a very limited application. Massei has employed the jaborandi in the form of an infusion, and pilocarpine per os, and subcutaneously, in 8 cases of diphtheritic croup but without very brilliant results. Four cases recovered and four died; three of the cases that recovered suffered only from a mild form of the disease angina diphtheritica, while in some of the cases the membrane had already separated before the remedy was prescribed; in the fourth case pilocarpine that was used by means of a steam atomizer could not be given any length of time since there were frequent attacks of fainting. This case was one of the most severe but in spite of this it ended in recovery. We may as well mention here that in all cases an antiseptic regime was carried out. Of the four lethal cases, one commenced with mild symptoms of angina; and in spite of the use of pilocarpine the condition of the patient changed rapidly, croup set in and in 24 hours the patient was dead.

Somma's observations and results in diphtheria and croup of children were similar to those given above but the remedy proved efficient in dropsies after scarlatinal nephritis.

The following is a short abstract of the conclusions that these two authors came to: In diphtheria and croup jaborandi shows its unpleasant toxic symptoms, but no special or specific action on the disease. It sometimes appears as though the membranes separate a little more easily, but nothing is gained over other remedies since the poison still remains in the system. This remedy is a very valuable addition to our materia medica in dropsies, where the object is to remove transudation liquid.—*Arch. di patol infant.* T.

Resorcin in the Treatment of Epithelioma.

Mannino reports the following case of epithelioma: G. P., æt. 64, had always been healthy up to the present time. About four years ago he noticed a small growth on his right cheek, near the arcus zygomat, which had caused no further annoyance save an intolerable itching. This caused the patient to scratch considerable; the tumor bled easily. In spite of frequent cauterizations and excisions, the increase in size of the growth was rapid, so that by April, 1883, it presented an irregular polygonal surface about ten centimetres in diameter. One-half of this surface was covered by a dark crust, while the other half looked fiery red and irritable, with fungous and hard edges. Pressure on the crust or surface of the wound caused considerable pain, which, later on, became continuous. The lymphatics immediately surrounding were not involved; everything was normal, only the patient was mentally depressed on account of the long continuance and stubbornness of the disease.

An ointment of resorcin and vaseline (3.0 to 30.0) was ordered. In the course of one week after the use of this salve, which was applied twice a day, an improvement could be seen. After two weeks the strength of the ointment was reduced to 2.0—3.0. After a short time the ulcer had disappeared entirely, leaving a smooth, red-looking cicatrix.—*Revespec, di Sifilogr. y. Dermatol.* T.

Stimulating Properties of Oats.

A. Sanson after a series of investigations with oats makes public his results. The hull or the shell covering the grain proper contains a substance that is soluble in alcohol, which has the property of stimulating the motor cells of the nervous system. It seems to belong to the group of alkaloids, though it is not crystallizable, of a brown color, and when added to diluted alcohol it imparts to it, its amber color. Its chemical composition in ($C_{56}H_{21}NO_{18}$) and S. suggests that it be called *Avenin*. All varieties of the cultivated avena sativa contain this principle though not in the same quantity. It is not the variety alone that controls or influences the amount but also the soil where it is cultivated. The white variety contain less of the stimulating material than the black. If the grain is ground the effect is very much lessened; possibly grinding to a certain extent, destroys or changes this property somewhat, though what is left acts more readily, but does not last so long. The action in all of the experiments continued for one hour to every kilogramme of oats consumed.—*Bulletin Commercial de l' Union Pharmaceutique.* T.

Cellulose as a Dressing.

As a new form of dressing, Dr. Fisher, of Trieste, highly recommends cellulose. He has tried it in a series of cases, and comes to the following conclusions. With warm water, or moistened with some medicament, and these covered with some impermeable substance, it acts nicely. In that class of cases where moist heat is indicated, it is preferable to all other forms of dressing for the following reasons:

1. Its absolute cleanliness.
2. On account of its low specific weight.
3. It never produces erythema nor eczema.
4. It will retain moisture and warmth for over 24 hours.
5. It will not adhere to the surface of a wound.
6. It is easily adapted to the form of the body.
7. It is by far cheaper than any dressing that will answer the same purpose, that has been employed until now.

Author has used this dressing in suppurating buboes, either with a weak solution of carbolic acid or iodoform. T.

Coffee—Its Physiological Action.

The Repertoire de Pharmacie gives a description of the physiological action of coffee, our common beverage, by Guimaraes. His observations were made on dogs. Ordinary doses of coffee cause an increase in the heart action, increase the blood pressure, accelerate respiration, elevate the body temperature, and slightly increase the irritability of the nervous centers. To produce the opposite effects, it requires very large doses. This beverage can be recommended, first, because it increases the assimilative powers of the system; and second, as a stimulant it is superior to alcohol, since the after-effects are not so unpleasant. Even in large doses the balance between assimilation and elimination is always kept up. We are still in the dark concerning many points yet, but we know positively why coffee is useful to individuals who are compelled to labor for a long time, because it increases the ability for work by its stimulating properties.—*Repertoire de Pharmacie.* T.

Boracic Acid and Vaseline.

The use of boracic acid in the form of an ointment with vaseline, is highly recommended by Champoin niere, especially in very sensitive wounds of the integument. Author prescribes it as an antiseptic, and uses it frequently and freely. As a rule, this preparation is perfectly bland, and is prepared in the following manner: Boracic acid, gr. 6; vaseline, gr. 36. It is quite difficult to powder the acid very fine, and not infrequently druggists resort to alcohol or glycerine as a solvent, but C. suggests that these be not used, since they cause the boracic acid to become irritating. If the ointment is to be used in diseases of children, 50 per cent. Peru balsam may be added. —*L'Union Pharmaceutique.* T.

Fluid Extract Hydrastis (Aqueous.)

Hallburg comes to the following conclusions concerning the preparation and manufacture of the aqueous fluid extract of hydrastis:

1. The watery extract does not fully represent the action of the drug on account of the berberin being but very slightly soluble in water, while it is acknowledged that berberin is the most valuable and active constituent.

2. Alcohol, alcohol and water, will more thoroughly displace the active principle than water alone.

3. All of the drugs containing berberin, such as columbo, berberis aquifolium, etc., are best treated by dilute alcohol to fully extract the active principle. Such an extract is the best form to administer this remedy in, but rather in a little more concentrated form; this menstruum fully exhausts the drug and is free from all precipitation.—*Anzeigeblatt Oest. Apoth. verein.* T.

Vaseline Zinc Paste.

By the thorough incorporation of two equal parts oxide of zinc and starch with vaseline we obtain a paste that is preferable to any of the ordinary vaseline ointments because it has a better consistency; it will adhere to any portion of the body without any other dressing; but its greatest advantage is its porosity in such cases as weeping eczema. If a wound is to be dressed it should be well cleansed first with a solution of carbolic acid or sublimated mercury, then the paste applied right to the parts by means of a brush that has first been boiled in a solution of corrosive sublimate; the paste may be allowed to dry or is covered with cotton and then dressed with the ordinary bandage. When the dressing is removed in two or three days the wound is usually healed, leaving but a very little scar.—*Prager Med. Wochenschrift.* T.

Caffein in Diseases of the Heart.

Citrate of caffein can be favorable compared with digitalis in diseases of the heart, when an ordinary dose, 1.0 per die—in exceptional cases 2.0 to 2.5—is given. The good effects of caffein have not been brought out because the dose was not large enough. It has a tendency to act more rapidly than digitalis. Not infrequently the pulse has been known to fall from 160 to 100 in the course of 24 hours. Dilatation of the heart and also venous stenosis are very much relieved in the course of two or three days. Caffein has no cumulative action like digitalis, and symptoms of intoxication have not been known to follow its administration. The patients themselves prefer it to the foxglove. The only objection to the remedy is a certain amount of irritation which causes nervousness and restlessness, thereby preventing the patient from sleeping, and then it is very high priced.—*Pharm. Post.* T.

Iodoform Plaster.

When we consider that the methods of applying iodoform until now have been very unsatisfactory, we will certainly appreciate this new plan for employing the drug when it has to be applied to the unbroken skin for resorption. Iodoform collodion soon scales off from the skin; besides it incorporates the particles of iodoform so thoroughly that it cannot be absorbed. In the form of an ointment the body temperature melts the fatty substance which causes it to soak into the dressing. These objections caused Dr. Pape to make use of the following formulas:

1. Emplastrum iodoformi fortius: one part iodoform to two parts emplast. adhesivæ and emplast. plumb.

2. Emplastrum iodoformi mitius: one part iodoform to six parts of the above-mentioned plasters.

Author recommends the stronger plaster in glandular enlargement. He has also used it in bursitis praepatellaris, chronic epidydimitis and exudative pleuritis. In every case and in a comparatively short time—an average of 10 days—the tumors had diminished very much in size. The plaster is spread on leather and left to remain in situ for six days. The weaker preparation was employed very successfully in minor injuries and boils, etc.—*Wiener Med. Blätter.* T.

Strychnia as an Antidote to Chloral.

A patient whose pains had been very severe for some time, took 15 grains chloral to produce sleep. In the morning he did not awaken. At 10 A. M. the whole body was cold, the heart was frequent, weak and irregular, respiration was labored, pupils did not respond to the light, and all reflex action had ceased.

An antidote could not be given, since the patient could not swallow. Hypodermic injections of strychnia subcutaneously were made use of; two doses were administered in the course of half an hour. (1. dose, 1½ mgr.; 2. dose, 2 mgr.) After each dose the heart-beat improved, becoming more regular, slower, and with a little more force. At 3 P. M. another injection of 2 mgr. was made, and in the course of half an hour consciousness returned; pulse was 68 per minute and regular. In the evening patient walked around some, and the next morning he returned home in a wagon. During the following night he took 35 grains of chloral again. Death followed in two hours.—*Journal de Medec. de Paris.* T.

Picric Acid.

Dr. di Lorenzo recommends the use of picric acid in eczema impetiginosum of children. Bufalini has made some observations on the same subject, with very satisfactory results. Author uses the acid in the form of a saturated solution applied once

daily; he first removes the crusts and scales by means of cod liver oil, then washes the surface with soap and water, or makes an application of soap tincture by means of a brush. His results, he claims, are far superior to those attending any medicament he has ever used in this very obstinate disease. On the whole, he does not hesitate to highly recommend it to the profession.—*Arch. de patol infant.* T.

Convallaria Majalis in Diseases of the Heart.

The aqueous extract of convallaria majalis, according to Pel, can be given in large doses without any unpleasant effects, save occasionally it may produce mild catharsis. As a tonic to the muscular fibre of the heart, and as a diuretic, especially in the weakened condition of the left ventricle in connection with chronic nephritis, its action is unsatisfactory and inefficient; on the contrary, its stimulating and diuretic effect in occasional cases of organic heart disease, especially in mitral insufficiency with a disturbance of compensation, the action is all that can be desired; yet digitalis acts just as pleasantly and its duration is longer felt. There are no unpleasant secondary nor after-effects to be feared from convallaria majalis, but it will certainly never take the place of digitalis; indeed in urgent cases we are recommended not to try the majalis, but to resort to digitalis at once. The preparations used by Pel were manufactured at Cologne according to the Brunswick pharmacopœia.—*Centralbl. f. d. ges. Therapie*, 1883. T.

Nitrite of Amyl in Therapeutics.

The author has employed this remedy for 5 years and is well satisfied with his results. According to his experience it is indicated and has good effects in actue febrile diseases of the respiratory organs, where weakness from old age and a high degree of dyspnœa endangers the life of the patient. The action of this drug passes off rapidly, in fact it ceases when inhalation is suspended. In this manner it may be given for days, if necessary, without bringing on any bad effects. Author thinks the fear of properly employing nitrite of amyl is the reason of its failure in many instances. He applied it by putting 5 to 20 drops on a handkerchief from which it may be inhaled, and repeated as often as may be necessary.—*D. Anhona, in Gaz. Med. Ital.* T.

Correspondence.

Philadelphia Letter.

The medical schools are again in full blast and with prospects brighter than ever, judging from the increased number of students that flock to this medical center, and the fine appearance of the men. This is probably due to the improved facilities offered by the schools, especially the laboratory courses which have become such a feature here during the past few years. Opportunities of practical instruction are the need of the day. Students have too long been obliged to sit on the benches of great hospitals far from the operator where listening was good but seeing good for nothing, and any method of teaching which has as its end the bringing of the student in direct contact with the patient should be welcomed. The method adopted by Dr. John V. Shoemaker at the Philadelphia Hospital for Skin Diseases is one of the best. He divides his class in small sections and then insists that each man acquaint himself with the case by personal examination of the patient. The result is as it should be, viz., that his clinics are some of the most popular ones to the student in the city. Not only does he personally superintend the instruction of the student but he has appointed instructors whose duty it is to take the students in squads for instruction in the manner of giving baths, of applying ointments, bandages, etc.

The subject of micro-photography is attracting much attention just now among scientific circles, as a method of illustration possessing many advantages, especially to the student of pathology. Dr. Morris Longstreth is working up the subject at the Jefferson Medical College in connection with his course in pathology, and the subject is also receiving a good deal consideration at the University of Pennsylvania. I was shown some excellent work by Prof. Walmsley of that institution. Dr. F. E. Stewart has suggested the use of micro-photographs on cards for class illustration. The points to be observed are appropriately marked on the cards which are passed around the class. The teacher with a similar card in his own hand describes the picture to his class, who, with the cards in their hands are thus able to follow the description, and see for themselves at the same time—a thing not permitted if the microscope is used, unless every member of the class is provided with an instrument.

Dr. O'Hara read a paper before the Philadelphia County Medical Society, October 24th, on the subject of Cereus Grandifloris and Other Cardiac Tonics. He considers the fluid extract of this plant, as prepared by Parke, Davis & Co., a better cardiac tonic than either digitalis or convallaria majalis, especially in certain cases where both digitalis and convallaria failed. His paper will be published in the Philadelphia Medical Times in due course of time. Space will not permit me to consider his valuable points in this short letter. In the discussion that followed Dr. F. E. Stewart answered a criticism of the author of the paper with regard to the quality of some of the reports in Messrs. P., D. & Co.'s circular, where he obtained his information concerning this useful drug, by saying, that, having been connected for some four years with the literary work of Messrs. P., D. & Co., he was enabled to state that P., D. & Co. did not seek to found their reputation upon the statements contained in their circulars, but submitted them to the profession, good, bad and indifferent, for what they are worth, leaving the reader to separate the wheat from the chaff. He also said that it was necessary to take reports with regard to new drugs from unscientific sources at first, from the very nature of the case, until better information can be obtained, but the circulars would also be found to contain some of the most valuable of clinical reports from the leading hospitals both of Europe and America. * * *

Male Fern and Kamala Capsules in Tapeworm.

My patient was a butcher, a rugged, somewhat fleshy man, about thirty-five years of age. He had a tapeworm, which had stubbornly refused to let go its hold under the persuasive efforts of many anthelmintics. Having received from Messrs. Parke, Davis & Co. a sample of their male fern and kamala soluble elastic capsules, each capsule containing 9 minims oil of male fern and 5 grains of kamala, I determined to give this combination a trial in this case, and accordingly prepared the patient by instructing him to eat no supper, and on retiring to take a full dose of castor oil. In the morning gave six capsules at one dose, and in half an hour followed them with six more, thus giving upwards of 3 jss of oil of male fern and 3 j of kamala. Although he was purged several times during the day, no trace of the worm showed itself in the dejecta, and I, who kept the patient under close observation, began to fear that I would fail of success. I then gave him three large elastic-filled capsules of male fern and castor oil, each containing 1 gramme (15 minims) of oleoresin of male fern and 1½ grammes (23 minims) of castor oil, thus making 45 minims of oil of male fern and upwards of a tablespoonful of castor oil. On the following morning, between three and four o'clock, the worm came away, and on examining and measuring it I found the head intact and the whole length of the parasite sixty feet. The patient suffered no inconvenience from the medicine and went about his work as usual.

It may be of interest in connection with the above to report a subsequent case in which I administered kamala, pending my druggist's receipt of a supply of the above capsules. I gave the patient an ounce of kamala in powder, in drachm doses, at intervals of between one and two hours. The result was, however, only to bring away about twenty-five feet of the worm, but minus the head.

I am convinced that the above formulæ are excellent anthelmintic combinations, while the purity of the ingredients in the capsules employed is attested by the result.

M. Ney Smith, M. D.

Springfield, Mo.

The Treatment of Gonorrhœa.

I believe that the reason of the usually tedious course of gonorrhœa is the too stimulating nature of the treatment so common in the early stages. If I can see the patient in 24 or 36 hours after the first signs of inflammation, I introduce an olive point double catheter attached to a Davidson's syringe. Through this force water of a commencing temperature of 70° or 80°, which increase it as the patient can bear it. Use from four to six quarts. After using this quantity of water, you will find the inflammation nearly subsided. Then in 3 hours commence the following injection:

℞ Muriate hydrastine, gr. x
Iodoform, gr. iij
Glycerine, 3 j
Sassafras, water, q. s. ad 3 ij

M. ft. sol.

Sig. Inject 4 times a day. Shake.

If there is much acidity of the urine, or scalding and burning, give the following internally.

℞ Ext. kava kava, fl. 3 ss
Ext. rhus aromatic, fl. 3 ij
Balsam copaiba, 3 ss
Tr. cubebs, q. s. ad 3 ij.

M. Sig. One teaspoonful 4 times a day.

If I can get my patients to take good care of themselves, I very seldom fail to have them all right in eight or ten days. Let the readers of the Gazette try it and I am sure they will be well repaid for their trouble, both in the results and in the gratitude which the experienced patient will shower on them.

L. C. Schutt, M. D.

Fort Wayne, Ind.

A Case of Gastro-Hepatic Catarrh Successfully Treated by Cascara Cordial.

A gentleman of about 50 years of age came under my care suffering from "biliousness," bad taste in the mouth on rising in the morning, coated and foul tongue, conjunctiva yellow, constipated flatulency and drowsiness, for which I had tried many medicines. Pill cath. comp., muriatic acid, magnesia, phosphate of soda, podophyllin, and other remedies, only gave him temporary benefit. I gave him cascara cordial, which acted like magic. It immediately relieved all the distressing symptoms and gave him natural alvine evacuations, with neither straining nor griping, relieved an unnatural desire for sleeping, cleared his skin and cured my patient.

A lady patient of mine who had suffered from neuralgic headaches, to whom I had given arsenic, gelsemium, citr. of caffeine, purging pills, etc., without effect, was relieved in a short time by the cascara cordial, and what was of great importance in her case, the medicine did not taste nasty.

Edward F. Arnoux, M. D.

New York City.

Aletris Farinosa.

In reply to your request that I should enlarge somewhat upon my article upon A. farinosa in the August number of the Therapeutic Gazette, I will state that there remains nothing for me to add other than to simply state what preparation I use and in what doses under different emergencies.

I employ the powdered root from which I make my own fluid extract, adding to every 16 ounces 16 ounces of pure alcohol. I make it either by percolation and filter, or I allow the alcohol to remain in some convenient vessel upon the root for 14 days and filter. Of either I give 10 drops three times daily, but it may be increased to 20 drops if necessary. I stated in my last its action and could now only add the history of a few cases, which would be only tiresome to your readers. When time permits I will give you a synopsis of my treatment in cases of threatened abortion, in which this remedy has not failed me in the last 14 years.

D. P. Duncan, M. D.

Waynesboro, Ga.

The Therapeutic Gazette

WILLIAM BRODIE, M. D., Editor.

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The Urinometer and its Use.

IN a recent number of the Ephemeris Dr. Squibb treats, in his usual practical and thorough manner, the general subject of the specific gravities of liquids, and in particular of the instrument employed by physicians to test the density of the urine. Physicians generally have given little attention to the details of manipulation necessary to insure accuracy in observations of specific gravity. In the clinical use, indeed, of the urinometer minute exactness is not generally required, yet a knowledge of the precautions which should be taken in accurate observations, will enable the physician to employ more intelligently and to better advantage the imperfect instruments and methods which suffice for clinical purposes.

The information on this subject contained in the standard text books is exceedingly meagre. The urinometer is described and usually figured, and the general method of using it is explained. Thus Harley says:* "All that is required with this instrument is just to pop it into the urine and read off the number which happens to be on a level with the surface of the liquid." And other authors are scarcely more explicit. It is taken for granted that the instrument is correct in its indications—for that the instrument maker, indeed, is responsible—and although it is stated that the specific gravity is to be taken at a certain fixed temperature, nothing is said of the amount of variation in the reading if this condition is not complied with.

Dr. Squibb has endeavored in the article alluded to to supplement the deficiencies in the text books. He finds fault in the first place with the usual form of the urinometer, with a cylindrical air chamber, explaining how exact readings are difficult with such an instrument on account of its tendency to adhere to the sides of the jar containing the urine. To obviate this defect, the air chamber should be made of an oval form, or consist of two cones united by their bases, so that it may come in contact with the side of the jar at only a single point, and a further improvement in the same direction is suggested, viz.: that the sides of the jar itself be deeply grooved or fluted. The suggestion is eminently a practical one, and instrument makers will no doubt avail themselves of it. If they would furnish a cylinder, however, which when set on its base would be in a state of stable equilibrium, there would be less profanity on the part of those who have occasion to use the instrument.

In regard to the proper mode of reading the indications of the urinometer, Dr. Squibb recommends, contrary to the advice of some, that the scale be read off from above the level of the fluid, not from below. One reason given for this is that when readings are taken from below, they are liable to be rendered incorrect by the distortion due to refraction. It seems to us that the effect of refraction, at least where a plain cylindrical jar is used for the experiment, will be more likely to vitiate readings taken from above than those from below, for reasons that will be apparent to any one familiar with the principles of optics. Probably it would be difficult, however, to obtain reliable readings from below when the fluted jar is used, and that objection to its use, in our estimation, would go far to outweigh the advantage to be derived from the greater freedom of oscillation of the instrument in a jar of such form. Of course, one should learn to read the scale of a hydrometer both above and below the level of the fluid; sometimes one method is preferable, and sometimes the other. This, however, is a matter which each individual must decide for himself, being careful only to adopt a method which shall ensure uniformity in the results. Admirably practical and explicit directions are given by our author regarding all details in the use, best mode of packing and carrying the instrument, etc., for all of which he merits the gratitude of the many who will, no doubt, profit by them.

Finally, he explains at some length how, from the ordinary imperfect instruments, readings may be obtained which are practically correct. Every instrument when procured should be carefully tested to ascertain whether its indications are correct. The method of doing this is extremely simple. To test the zero point, place the instrument in pure water previously brought to the standard temperature, and note the reading. If this is zero, the instrument is correct, at one end of the scale at least. If it is a little more or less, note the reading, to be employed subsequently as a correction for readings in the upper part of the scale. If, for example, the instrument sinks only to the second degree on the scale, this figure .002 must be deducted from the reading if less than 1.015. Of course, if the error is excessively large, the instrument must be condemned, unless it can be adjusted by suitable weighting so as to read correctly.

In order to test the other end of the scale, make a solution of 72 grains of common salt in 728 grains of pure water. The specific gravity of this 9-per-cent. salt solution is very nearly 1.06. The writer states that at 77° F. (25° C.*), which he recommends instead of 60° F., as a standard tem-

*Harley on The Urine and its Derangements, p. 24.

*By an oversight in the proof-reading this figure appears in the Ephemeris as 75° C.

perature for taking specific gravities, this solution has a density of 1.06 as compared with water at 39.2° F.

This, however, is adopting a different unit from that by which the zero of the instrument has been fixed, for then the standard assumed was water at 77° F., the specific gravity of which when compared with water at a maximum density is only .99714 (Dr. Squibb himself states it at .99684.) If the latter standard is adopted, the instrument should indicate, therefore, in pure water at 77° F., not zero, but *minus* 3 degrees.

If the maximum density of water is to be adopted as unity, it will be necessary, in order to test the zero point of the instrument, to prepare afluid which at 77° F. shall have this density, and this may be done by mixing 143 volumes of a 9-per-cent. solution of common salt with 3,000 volumes of water, or by dissolving directly in one pint of pure water, measured at 77° F., 31⅔ grains of common salt, but as we shall endeavor to show this standard is not one which it is desirable to adopt.*

But our author seems not to be particular what standard we use, for he gives us for testing the middle point of the scale still a third. In order to prepare a test fluid which shall have a density of 1.03, he mixes equal quantities *by weight* of water, sp. gr. — .99714, and the 9-per-cent. salt solution, sp. gr. 1.06. Admitting, however, that water has a density of 1., the result of mixing equal weights of the fluids will be to produce a mixture having a density of 1.029121, unless the mixture of the fluids is attended with condensation of volume, which is not probable. In order to obtain the desired strength the two fluids should, of course, be mixed in equal quantities by volume, not by weight, for the weight of the two volumes of mixture will be 1.00 + 1.06=2.06, which divided by 2, gives the desired figure.

It is unfortunate that these slips should have occurred just here, where accuracy is all-important, and doubly unfortunate that they should go forth with the authority of a name which deservedly carries such weight. The article is sure to be widely quoted in medical journals, and physicians will follow implicitly the instructions of one in whose superior learning and skill they repose unbounded confidence. It is only another illustration of the fallibility of mortals, to which we have elsewhere had occasion to allude.

The same article contains other mistakes, which in any other writer would be passed over as of no great moment, but which do excite some surprise where they stand. The statement is made that when the specific gravity of the urine is taken at a temperature above or below the standard, a correction must be made of one degree on the scale for every three degrees centigrade of temperature. The authority for this statement is not given, but Neubauer and Vogel give the same figure, citing as authorities Siemon and Beneke. It seemed to us that this correction must be too large, for water expands considerably less than this, and we have, therefore, made a number of observations, which show that, although urine expands more than water at temperatures between 50° and 100° F., the difference is not so great as the above figure would imply.*

The correction may be stated as about one degree of the urinometer for 7.2° F. (=4° C.), for temperatures between 50° and 80° F.; for temperatures between 80° and 95° F. a larger correction is required, amounting to one degree of the instrument for every 6.3° F. (3.5° C.) This is assuming that the standard temperature employed is 60° or 62° F. [To illustrate, suppose that at 75° F. the reading of the urinometer is 1.018, the correction for 15° F. is 15÷7.2, or nearly .002, and the corrected reading 1.020. Again, suppose the instrument to give a reading at 91° F. of 1.017, the correction will be 31÷6.3, or nearly five degrees of the urinometer, and the true reading will be 1.017+.005=1.022.]

Doubtless an extended series of experiments would show that the coefficient of expansion varies greatly in different urines, and probably it increases, on the whole, with the density of the specimen, and this would explain, perhaps, why it should be stated so high by German authorities. Dr. Bird gives a much lower coefficient of expansion, making a correction of one degree on the reading of the urinometer for about 11°F., probably assuming that the fluid follows the same law as simple water. The whole subject is worthy of a more careful investigation, but for practical purposes the constant above given will afford results as nearly correct as it is possible to obtain with such an instrument.

It is important, however, if a correction is to be made at all, that it be made in the right direction. For temperatures above the standard it is, of course, to be added; for temperatures below the standard it is to be subtracted. Dr. Squibb makes the curious mistake of subtracting a correction which should be additive.

When glass instruments are employed for obtaining the specific gravity of a fluid it must be remembered that the glass itself as well as the fluid expands, and accordingly the apparent specific gravity is subject to a small correction, which for temperatures within narrow ranges may be taken as uniform. Our author explains this, and states that the amount of this correction has been repeatedly and carefully determined, and that it amounts, for a 500 c. c. flask to .00002 c. c. for each degree of the centigrade scale. He does not give his authority for this statement, and is clearly in error, for all authorities agree that the cubic expansion of glass between 0° and 100°C. is between 1-315 and 1-380 of its volume (Determinations by Lavoisier and Laplace, and by Dulong and Petit). This would make the correction for a 500 c. c. flask .013 to .015 c. c. for each degree centi-

*To prepare a standard salt solution having a density of 1.06 at 60° F., dissolve in one pint of water measured at 60° F., 649 grains of common salt, or in 1000 grains of water, dissolve 89 grains of salt. If the solution is to have a density of 1.06 at 77° F., the quantity of salt employed must be about 5% greater, viz., to 1000 grains of water 93.5 grains. This is considerably weaker than Squibbs' standard (9%) solution.

*Starting from a temperature of 54° F., water loses in density .001, equal to one degree of the urinometer scale, by successive increments of 14° F., 10°, 7.5°, 6.5°, 6°, 5°, 5°, 5°, expansion being much slower between 54° and 80° than between 80° and 100°.

A specimen of urine having at 60° F. a specific gravity of 1 0125 by actual observation, lost .001 in density by the following successive increments of temperature (starting as before from 54° F.): 10 F., 9°, 7°, 6.3°, 6.1° Another specimen, having a density at 60° F. of 1.0227, lost .001 by the following increments: 7°, 7.3°, 7.4°, 7.4°, 6°, 5.3°. It will be observed that expansion is much more rapid, proportionately, between 54° and 70° F. than in the case of water.

grade. The writer himself practically adopts a figure (0.02) much nearer to this than the one he first gives, but this, unquestionably, is much too large. It is a small matter, it is true, but for that very reason exactness is the more important.

It has been customary heretofore to employ as the unit of comparison in stating the specific gravity of the urine an equal volume of water at 60°F. Instruments, as a rule, are graduated for this temperature, or for one that does not vary materially therefrom, and all the published records of observations, clinical or scientific, have been based upon this unit. Further, it is customary to estimate roughly the amount of solid matter contained in any specimen of urine by multiplying the last two figures of the specific gravity, carried to three decimal places, by a fixed factor. It seems to us, therefore, exceedingly undesirable to change the unit of comparison without some very cogent reason.

The assuming of a temperature, more easily secured, at least in summer, is not objectionable, especially if the instrument is so graduated as to give readings coinciding closely with those of the ordinary instrument, and this it is not difficult to do. Even if water at a temperature of 70°F. (better in our judgment than 77°) were taken as the standard of comparison, the results would not differ materially from those obtained with the present instrument, especially as the temperature is so often neglected in the observations made for clinical purposes.

Dr. Squibb, however, proposes to make the standard of comparison the same that has been generally adopted for scientific purposes, viz.: water at 39.2° F., or at its maximum density. This change involves a difference in the reading of the urinometer of nearly 3 degrees (= .003.) Of course, with the new specific gravities the old factor for estimating the total amount of solids in the urine would be of no use, and, indeed, no factor could be used for this purpose, for the scale must begin to read not at zero, but at —3. Suppose the specific gravity happens to be below 1.003, as read by the ordinary instrument, it would contain apparently a minus quantity of solid matter, whatever factor might be employed to estimate it.

This objection alone would be fatal to the adoption of the proposed standard, but aside from this it must be admitted that a double standard of temperature, one for the fluid under observation, the other for the unit of comparison, must be always extremely perplexing and a fruitful source of mistakes. The fact that even the man who proposes it, although accustomed to operations of this kind, falls into an error himself in this very discussion, shows that the calculations involved are quite too intricate for ordinary mortals to follow intelligently.

Critics not Above Criticism.

OUR attention has been called to a circular issued by a manufacturing firm in St. Louis, headed, "a timely warning to physicians and druggists." The subject matter of the circular is introduced thus: "Physicians and druggists frequently make their tinctures, wines and syrups from fluid extracts. Recognizing this practical fact, manufacturers have published formulæ accordingly. To these formulæ are usually added doses and therapeutic notes. All this information is referred to and used by physicians and druggists. But the formulæ, doses and notes thus scattered abroad through price-lists, circulars and labels, are not authoritative, no responsible author being named, and should never be used without previous verification. Actual scrutiny of them, however, reveals gross errors, such as may lead to serious results," and the writer goes on to give illustrations from recently published price-lists, etc. He finds formulæ for such standard remedies as tinctures of aconite, veratrum viride and cannabis Indica, which contain from one-half to one-third only of the amount of drug prescribed by the pharmacopœia, while in other instances the proportion of drug is 3, 4 and 5 times that in the officinal formula.

Of course it is greatly to be regretted that there are manufacturers whose knowledge of pharmacy is so limited as these facts imply; but it seems hardly right that the innocent should suffer with the guilty, as they must do when on the one hand the names of the gross offenders are withheld, and on the other the broad statement is made that, "out of all the lists and formularies of this kind which we examined not one was free from material errors; many of their blunders are disagreements with both the old and the new pharmacopœias, as well as with other recognized standard authorities and with common usage." The inference to be drawn is that with the exception of a single manufacturing firm—modesty forbids any mention of the name—all who engage in the business are culpably careless about the information they give in regard to the goods they manufacture.

That there is gross ignorance on the part of some who engage in such manufacture, of course, is true, and physicians and druggists are well aware of the fact, and have not waited for the warning voice of an interested party to discriminate in purchasing and in prescribing in favor of the worthy. But there is such a thing as overdoing minute criticism. No book was ever published, unless it were a table of logarithms, in which some errors and discrepancies might not be detected. The Pharmacopœia of 1880, although every page was submitted to repeated criticism and deliberate scrutiny by a number of the most competent pharmacists in the land, contains several obvious—one would almost say unpardonable—blunders. We must not, therefore, be too exacting in our requirements, even from those who occupy the most responsible positions.

We need not go further than the circular in question for an illustration. We are quite at one with the writer in insisting that the statements made by manufacturing firms shall be submitted to a critical examination before they are accepted as authoritative, but we prefer to verify those statements by our own methods rather than to accept any method of verification recommended to us, unless we first prove its correctness. In the present instance, as aids to us in criticising the work of others, we are given the following data: 100 avoirdupois ounces of water measures 96 fluid ounces; 100 avoirdupois ounces of alcohol measures, at the most common temperature, 123 fluid ounces; 100 avoirdupois ounces of dilute alcohol about 108 fluid ounces." These figures do not correspond with those we have been in the habit of using, but it is not difficult to test their correctness. The specific gravity of alcohol at 60° F. is 0.820; at 77° it is 0.812. The latter may be regarded as a

temperature above rather than below the average. Adopting this, therefore, we have as the weight of one fluid ounce of alcohol 455.7×.812, or 370.+ grains. One hundred avoirdupois ounces contain 43,750 grains, and 43,750 ÷ by 370 = 118.25, nearly, instead of 123, as stated. At a temperature of 60° the result would be about 117.

Again, dilute alcohol has a specific gravity at 60 F. of 0.928, or at 70° of 0.92. A fluid ounce at the latter temperature would weigh 419.24 grains, and 100 ounces avoirdupois would measure 104⅓ fluid ounces, nearly, instead of 108, as stated.

Thus it appears that careful and competent pharmacists may sometimes err in the details of calculations, and we are to conclude, not that "work which is so glaringly incorrect as to require thorough revision is not worth revising," but that *no* alternative formulæ for officinal preparations should be accepted from any source without careful verification. The physician who trusts implicitly the authority of any one book for doses, will find himself often disappointed in the action of his remedies; he must in large measure act independently of the authority of the books, trusting his own experience and observation, and consulting the books chiefly for the sake of comparing his results with those of others. The books merely collect the published reports of such observations in the past, liable, however, to errors in transcription, and subject to correction for differences in the conditions present in individual cases.

The manufacturing pharmacist is not in a position to instruct the physician in regard to the therapeutic uses of familiar drugs. Accepting the statements of the books, he may indicate in a general way the properties they are known to possess, and in the case of the newer remedies some of their clinical applications, but such information is intended not to instruct the physician, but merely to give him hints that may be of service.

In furnishing formulas for officinal preparations, of course, the case is different. Here the statement of the manufacturer ought to have the weight of authority. Misprints will escape detection, and mistakes in calculation are always possible, but these should be exceedingly rare; any price-list or dose book which is glaringly incorrect in its statements ought to be condemned without mercy, and that by name. It is a false sentiment that would spare the injury to reputation and business that might result from such a condemnation, for such faults are not only inexcusable; they are unpardonable.

But we can scarcely condemn less severely a manufacturing firm, which by sweeping charges and by particular accusations of some unknown offender or offenders, seeks to convey the impression that with it alone resides all wisdom and infallibility. There is something very suggestive in this connection in the word "owl" which appears at the head of this circular. While apparently consumed with zeal to exalt the authority of the pharmacopœia, the writer accepts "as a practical fact," without a word of condemnation, the practice of physicians and druggists of substituting in the officinal formulæ fluid extracts for the crude drugs. This, we are uncharitable enough to surmise, is done in the expectation that fluid extracts of his own manufacture will be so employed, and we should have no serious quarrel with him on that score, only that presently it suits him, as a critic of others, to insist that the exact menstruum of the U. S. Pharmacopœia shall be employed in making from the fluid extract the corresponding tincture. This appears to us something like straining out the gnat and swallowing the camel.*

We can only hope that physicians and druggists throughout the land may take "timely warning" from this circular—and begin their critical examination of price lists, circulars, labels, etc., where the greatest display of pharmaceutical titles and the most strenuous claims for scientific exactness in the construction of alternative formulæ, seem to guarantee infallibility.

The Status of Medicines with Copyrighted Names Abroad.

ALTHOUGH the devices whereby pseudo-scientific pharmacists seek, in direct violation of the spirit of science, to create and maintain a monopoly of their wares, are, perhaps, quite as familiar in England and continental Europe as they are in this country, it is gratifying to note that these tricks do not there receive any more sanction from the better portion of the professions of medicine and pharmacy than they do from the same element in America. The fact but goes to enforce the inherent iniquity of these devices. While science and commerce are quite compatible the former will not tolerate any of the tricks through which the latter seeks to manipulate it (science) to the advantage of the few at the expense of the many. Science is too broad in its scope, too generous in its impulses, too humanitarian in its objects, to permit of its supine submission to being made a tool in the hands of the crafty tradesman who would traffic in human credulity and misfortune. It recognizes the fact that "the laborer is worthy of his hire," but does not sanction any system having for its sole object the profit of the individual at the expense of the many. The only privileges or honors which it has at its disposal, or the conferring of which it sanctions, are held solely as rewards of merit, and nothing could be more repugnant to the genius of science than a commercial device whereby rewards are secured regardless of that superiority of merit which can only be determined in the open field of competition.

A striking illustration of the light in which the device of copyrighting the names of pharmaceutical preparations is viewed by the legitimate pharmacists of Europe, was furnished by the action of the jury of award of the recent International Pharmaceutical Exhibition at Vienna, in regard to such preparations. Among the American exhibitors were Messrs. Wm. Warner & Co., of Philadelphia, who displayed a large assortment of their "Parvules." This firm also took especial pains to inform the jury in circulars which were also freely distributed, that "Parvules" are not "Granules," under which name Messrs. Parke, Davis & Co., of Detroit, exhibited

*Since writing the above a second circular has come into our hands which admits of no charitable construction. We quote the opening sentence: "In view of the inaccuracy of most of the lists heretofore obtainable, and in consideration also of the fact that *formulæ for making tinctures, etc., from fluid extracts are evidently demanded and will certainly continue to be used*, we have decided to include in our new price list all that seem to us to be required or proper." The price list, we are told, will "cheerfully" be mailed to any one who will take the trouble to write for it.

preparations which differ from the former only in their not being protected by copyright or other device whereby a monopoly of the manufacture and sale of a preparation is secured. A clause in the rules and regulations expressly forbade the admission of any patent, secret or trade-marked preparation, and Messrs. Wm. Warner & Co. succeeded in evading this by entering their "Parvules" as sugar-coated pills. The cloven-foot was, however, revealed in the circulars referred to, and, as a consequence, their display, although they had succeeded in having it placed on exhibition, received no attention from the jury, while a gold medal was awarded the exhibit by Parke, Davis & Co., which contained the granules.

The jury acted very consistently throughout as regards the prohibition of trade-marked and other forms of patent and secret medicines, and excluded a very creditable exhibit of pharmaceuticals by a continental firm, for the reason that this firm were agents for the sale of patent medicines and copyrighted trade-marked compounds.

And thus the cause moves steadily on. We look forward with much confidence to the time when the proper relations of this gigantic injustice to the interests of legitimate medicine and pharmacy will be recognized by the profession. When that time has fully arrived the line between quack and legitimate medicine and pharmacy will be more distinctly drawn than it is now.

What is it to be "Locoed?"

OUR venerable contemporary, Dr. Henry Gibbons, Sr., of the Pacific Medical and Surgical Journal, has already passed five years beyond the great mile stone of three score and ten. Notwithstanding this, his mental capacity is not in the least abated, of which fact we have abundant evidence in the sprightly journal with its thoughtful articles, which comes to us such a welcome visitor every month. We were not prepared, however, for the evidence of physical vigor which he affords us in a recent graphic account of an adventure in a Californian wilderness. On undertaking a visit to a gentleman in the valley of San Bernardino, the way became so rough that the horse which he drove, and which from the fact of its having been "locoed," was peculiarly subject to "crookedness," stopped, and refused in spite of persuasion or efforts at compulsion to proceed. The shades of evening coming on, the doctor was obliged to leave horse and vehicle and travel on foot to his destination. He lost his way, and when night came on found himself in the wilderness, with only a stone for a pillow and the canopy above for a covering. Notwithstanding the fact that his description of his night in the wilderness has no special interest from a medical point of view, we should like, did space permit, to reproduce it as a piece of charming descriptive narrative. Under the circumstances we are obliged to confine ourselves to the explanation which is given of the condition implied in the term "locoed," which condition occurring in his horse was the cause of Dr. Gibbons' misfortune. The word is the Spanish for crazy or insane, and the condition is produced by eating a certain weed which abounds everywhere in southern California, and which grows more sparingly in other parts of the state. Our readers may possibly recall the reference to this weed and its action, as contained in the January number of the THERAPEUTIC GAZETTE for 1882. The weed grows nearly all the year around, and is almost always found in flower at the same time. The flowers are in long clusters, and of a greenish white hue, and the fruit is an inflated pod about the size of a nutmeg, but oval in form, and containing a small cluster of seeds attached to one end. These pods are in large clusters, numerous and conspicuous, and when tread on burst with a cracking sound. It is the astragalus crotelaria, the specific name denoting the rattling caused by handling the clustered pods. The common name is "rattle weed." When pasture is scarce the weed is eaten by horses, cattle and sheep, many of which suffer the poisonous effects in the form of partial paralysis, irregular movements, and perversion or loss of sense. The brain and spinal cord appear to receive the morbid impression. Sometimes death takes place, apparently from apoplexy. Sheep sometimes plunge headlong into a ditch whilst drinking. Horses are occasionally rendered completely worthless, or more frequently they become nervous and difficult to manage. It is said they never recover entirely from this condition. Other weeds, one particularly, which has a milky juice, and is probably an asclepias, are suspected by sheep herders and others of producing similar poisonous effects. There are many species of the genus astragalus on the Pacific coast, but the one mentioned is the only one supposed to be poisonous.

Dr. Gibbons suggests the possibility of valuable medicinal qualities in the astragalus crotelaria, and we trust that he will place the profession under another of the many obligations which they owe him because of his researches into the flora of the Pacific coast, by that careful physiological and clinical study of this remarkable weed for which he has the qualifications.

Baron Ferd. von Mueller.

THE following facts concerning the distinguished author of "Select Extra-tropical Plants for Industrial Culture," an American edition of which is soon to be issued by Mr. George S. Davis, of Detroit, may not be without interest to the readers of the THERAPEUTIC GAZETTE.

Baron von Mueller, who is now 58 years of age, was born at Rostock, Germany, and received his education at Kiel. When scarcely out of his teens his active life began with a study of the botany of Schleswig-Holstein, which was ended in 1847 by his removal to Australia, where he has since been a most indefatigable laborer in the field chosen for his life-work.

Few botanists have expended time, money and energy so liberally as he in the pursuit and dissemination of knowledge pertaining to their favorite science. The first five years of his residence in the southern hemisphere were given to an exploration of South Australia, which was made at his own expense; but in 1852 the Government, recognizing his energy and ability, tendered him the position of Government Botanist of Victoria, which he accepted and has since filled.

For some years after this, most of his time was given to arduous explorations in his adopted home. So thorough and so well appreciated was his work, that no small number of mountains, lakes and rivers of Australia bear his name, which has also been given

to a peak in Spitzbergen and to a glacier and river in New Zealand.

In 1857 Dr. von Mueller became director of the Botanic Garden at Melbourne, through which many useful plants were introduced into Australia from other parts of the world, during the 16 years he remained in charge. It was mainly to further this work that a series of papers on plants likely to prove valuable in Victoria, were prepared for the colonial Acclimation Society. These proving useful, were collected and published, with additional matter, in the volume above referred to, which has since been reissued in several distinct editions in different countries.

Among the many volumes of recognized worth which have come from his pen, may be mentioned: "Fragmenta Phytographiæ Australiæ," a large work of eight volumes; the great "Flora Australiensis;" a complete index to the rare first edition of the "Species Plantarum" of Linnæus, and a descriptive atlas of Australian Eucalypts under the title "Eucalyptographia." His latest work is a "Census of the Genera of Plants hitherto known as Indigenous to Australia," now publishing by the Royal Society of New South Wales.

Dr. von Mueller was raised to the nobility in 1871, by the King of Württemberg, as a tribute to the extent and high order of his scientific work, which there is every reason to hope he may be spared to continue for many years.

Chlorodyne—Additional Notes.

AMONG the formulas for chlorodyne published in the last number of the THERAPEUTIC GAZETTE, that of Squire, recognized by the American Pharmaceutical Association, is erroneously given, as it was in the paper of C. H. Bernhardt, from which most of the formulas were copied. The formula as given by Squire (Companion to British Pharmacopœia, 1877) is as follows:

Chloroform	4 fluidounces.
Ether	1 fluidounce.
Rectified spirits	4 fluidounces.
Treacle	4 fluidounces.
Extract liquorice	2½ oz. av.
Morphine muriate	8 grains.
Oil peppermint	16 minims.
Syrup	17½ fluidounces.
Prussic acid (2%)	2 fluidounces.

Mr. Bernhardt stated the quantity of syrup as 27½ fluidounces, and that of prussic acid as 12 fluidounces, changing completely the percentage composition of the mixture.

As adopted by the American Pharmaceutical Association the formula may be expressed in parts per 1000 as follows, and these figures should be substituted for those given in the table:

Chloroform	139.2
Stronger ether	17.5
Alcohol	76.7
Molasses	121.5
Powdered extract liquorice	61.6
Morphine muriate	0.4
Oil of peppermint	0.8
Syrup	535.5
Hydrocyanic acid, dil	46.8
Total	1000.0

It corresponds, therefore, closely with the formula of De Puy, which, however, substitutes glycerin for the syrup. In De Puy's formula the syrup should be molasses—a printer's error overlooked in correcting the proof.

The second formula, published as "Gilman's," is regarded as an improvement on the older formula, and was published in New Remedies, September, 1882, as that at present favored by the originator, Dr. Gilman, of Lowell, Mass. The especial advantage claimed for this chlorodyne is that it can be diluted with water without separation of its constituents. This, of course, is not possible in the case of a chlorodyne containing cannabis indica; it does not appear, however, that there is any reason why this preparation should form a clear or only slightly cloudy mixture with water, since it is always used by itself, and dropped into water only the moment before it is to be swallowed.

Yerba Santa.

THE report in our present issue, by Dr. W. S. Gottheil, House Physician, of the results attending the therapeutic test of yerba santa at Charity Hospital, New York, has a seasonable interest with the advent of the time of the year when expectorants will occupy a prominent place in the prescriptions of the medical practitioner. The test of which the report is given is, it will be conceded, one of the most severe to which a drug could be well put, and the result is, we think, under the circumstances quite satisfactory. Of the twenty-eight cases in which yerba santa was tried, twenty-one were of phthisis and seven of bronchitis, the latter complicating asthma in several of the cases. Of these seven cases of bronchitis four were relieved to such an extent as to quite justify a report of them as cured, one was slightly relived and two received no benefit. Of the twenty one cases of phthisis the cough was markedly relieved in five, and slightly benefited in two, while in fourteen the drug was without the slightest effect. It is to be noticed, however, in connection with these fourteen failures that the report mentions only three which were subsequently relieved by other treatment.

It is manifestly unfair treatment of a drug to attempt to determine its value by its effect in an incurable disease, as phthisis for instance, after it has reached the stage of excavation, and the injustice of a test of the value of a remedy for the relief of a cough in an affection in which cough is in a measure essential to life, is peculiarly apparent. The fact, therefore, that yerba santa was of benefit in a few of these cases, in so far as to allay the severity of the cough, demonstrates its possession of properties which under more favorable conditions, as of simple bronchitis, for instance, must make it a remedy of much promise. The fact that in Dr. Gottheil's cases four of the seven of bronchitis were markedly, and one slightly relieved, attests its value in this condition.

It should be borne in mind in connection with the above test, that the claims made for yerba santa are that its properties are demulcent and expectorant, thus adapting the drug to chronic and subacute inflammation of the bronchial mucous lining. Its trial in phthisis with a view to determining the validity of its claims is, therefore, clearly improper, and the fact that it is even partially efficacious in such cases establishes for it properties in addition to those claimed

for it. The testimony to the value of the drug in properly selected cases is voluminous, and quite sufficient to warrant its entrance into the cough mixtures which the usual bronchial affections of the winter season demand.

Phosphatine.

"Stranger, This is For You!

If you have not proved its efficacy, go straight to your druggist for a bottle of *Dr. Austin's Phosphatine* as thousands before you have done. *It is a curative of rare merit* (but seldom advertised). The most *convincing* remedy you ever tried. *It goes right to the spot.* Even the first dose will carry conviction either for man, woman or child. The properties are scientifically prepared, containing over 80 per cent. of the life-giving elements belonging to the human system when in health and without which disease is inevitable.

Phosphatine imparts a rallying and sustaining help to a chronic tired brain, a nervous, sleepless condition, sluggish circulation, gone-ness, the nerve centres at the stomach, lungs, *and other organs, weak and impaired, flabby and inert tissue,* as nothing else on earth ever has or can.

The wasting body of a child or adult improves under its use in a manner that surprises all who try it. The circular around the bottle explains fully.

Do not confound Phosphatine with Hypophosphites, Phosphates, or anything else of a similar name and of doubtful character. If your druggist does not keep it, say to them that

C. N. CRITTENTON, 115 Fulton St., Now York.
McKESSON & ROBBINS, 91 Fulton St., New York.
W. H. SCHIEFFELIN & CO., 170 William St., N. Y.

And all other wholesale druggists are agents for the sale of Phosphatine. **Price, $1. 6 Bottles, $5.**

General Office at Rooms 11 & 12 Pearsall Building, 22 NEW CHURCH ST., N. Y."

The above is a fac simile reproduction of a circular which we have received. The profession will scarcely fail to recognize in the names given those of firms who come to them asking their patronage. How long will this double service of the god of legitimate medicine and the mammon of quackery be tolerated by reputable physicians?

Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service—July 1, 1883 to Sept. 30, 1883.

BAILHACHE, P. H., Surgeon. Detailed as member of Board to examine candidates for promotion, Aug. 23, 1883. Detailed as Surgeon-in-charge Cape Charles Quarantine Station, Sept. 5, 1883.

Miller, T. W., Surgeon. Granted leave of absence for twenty-five days, Aug. 31, 1883.

Wyman, Walter, Surgeon. Detailed as member of Board to examine candidates for promotion, Aug. 23, 1883.

Long, W. H., Surgeon. Granted teave of absence for twenty-five days, Sept. 25, 1883.

Smith, Henry, Surgeon. Directed to take charge of quarantine service at the Capes, July 29, 1883.

Stoner, G. W., Passed Assistant Surgeon. Granted leave of absence for thirty days, Aug. 24, 1883. To inspect the relief stations along the coast of Maine, Sept. 29, 1883,

Goldsborough, C. B., Passed Assistant Surgeon. Granted leave of absence for thirty days, Aug. 29, 1883.

Banks, C. E., Assistant Surgeon. Relieved from duty at Portland, Oregon, and to report to the Surgeon-General at Washington, July 18, 1883.

Carmichael, D. A., Assistant-Surgeon. Granted leave of absence for ten days, Aug. 31, 1883.

Peckham, C. T., Assistant Surgeon. To proceed to Portland, Maine, for temporary duty, Aug. 25, 1883.

Devan, S. C., Assistant Surgeon. To proceed to Portand, Oregon, and assume charge of the service, Sept. 11, 1883.

Kalloch, P. C., Assistant Surgeon. To proceed to Philadelphia, Pa., for temporary duty, July 25, 1883. To rejoin his station (New York) July 31, 1883.

Yemans, H. W., Assistant Surgeon. Relieved from duty at Sitka, Alaska, and to proceed to Portland, Oregon, for temporary duty, July 10, 1883. To proceed to San Francisco, California, reporting for duty to Surgeon Vansant, Sept. 11, 1883.

Glennan, A. H., Assistant Surgeon. To remain at Norfolk, Va., until further orders, July 29, 1883.

Wasdin, Eugene, Assistant Surgeon. To proceed to New Orleans, La., for temporary duty, Aug. 2, 1883. To proceed to Mobile, Ala., for temporary duty, Aug. 27, 1883. To rejoin his station (New Orleans) as soon as practicable, Sept. 25, 1883.

PROMOTIONS.

Guitéras, John, Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury, from Sept. 1, 1883. Aug. 31, 1883.

Wheeler, W. A., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury, from Spet. 1, 1883. Aug. 31, 1883.

RESIGNATION.

O'Connor, F. J., Assistant Surgeon. Resignation accepted by the Secretary of the Treasury, to take effect August 1, 1883. Aug. 2, 1883.

APPOINTMENT.

Wasdin, Eegene, M. D., of South Carolina, having passe the examination required by the regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, Aug. 2, 1883.

Book Reviews and Notices.

Hand-Book of Electro-Therapeutics. By Dr. Wilhelm Erb, Professor in the University of Leipzig. Translated by L. Putzel, M. D., Neurologist to Randall's Island Hospital, and Physician to the Clinic for Nervous Diseases, Bellevue Out-door Department, Etc. With 39 wood cuts. New York: Wm. Wood & Co., 56 and 58 Lafayette Place.

A Text-Book of General Pathological Anatomy and Patho-Genesis. By Ernst Ziegler, Professor of Pathological Anatomy in the University of Tubingen. Translated and Edited for English Students by Donald MacAlister, M. A., M. B., Member of the Royal College of Physicians, Fellow

and Medical Lecturer of St. John's College, Cambridge. 1883.

New York: Wm. Wood & Co.
Detroit: John MacFarlane.

These volumes are respectively the June and July numbers of Wood's Library of Standard Medical Authors, and we must say the publishers have made good selections in making up their series for 1883, if we can form any judgment of those already issued.

Of the two we think the work of Ziegler the most meritorious and practical, and will be hailed by the subscribers as a rich addition to the knowledge of pathological anatomy; whereas Erb occupies another field, and one in which many medical men are particularly interested.

The work in the latter is arranged in the following order: Part first, Physical Introduction; second, Physiological Introduction; third, Methods of Electrical Examination and Electro-Diagnosis; fourth, General Electro-Therapeutics; fifth, Special Electro-Therapeutics. Appendix in which the electro-therapeutics of the psychosis are discussed.

The author discusses his subject in an intelligent and masterly manner. Those interested particularly in this system of practice should possess themselves of a copy. Returning to the work of Ziegler we wish it could be placed in the hands of the profession generally and in students particularly.

It is unfortunate that such valuable information should be so tied up as it were. If issued separately they could not be furnished at the price. The above volumes are worth one-half the cost of the series of 1883. We presume it is not too late to procure the entire library and at least the issue of 1883. The Messrs Wood are to be commended for their enterprise in this direction.

Insanity: Its Causes and Prevention. By Henry Putnam Stearns, M. D., Superintendent of the Retreat for the Insane, Hartford, Conn.; Lecturer on Insanity in the Medical Department of Yale College, etc. 1883.

"It is the mynde that makes good or ill,
That maketh wretch or happie, rich or poore."
—*Spencer, Faerie Queene, Book 4t, Canto 14.*

New York: G. P. Putnam's Sons.
Detroit: John Willyoung.

This is a small octavo volume of 248 pages and is introduced to the profession by a gentleman fully qualified to speak, not only from his personal observations, but also from a large and extensive reading on the subject. Speaking with a gentleman who has given the subject of the work much attention, he remarked: "I have it and it is a valuable acquisition to the knowledge of insanity."

Some two years ago the author read a paper entitled "The Insane Diathesis" at a meeting of the Connecticut State Medical Society. The many requests for a copy from both lay and professional men induced him to put it in the form of a book and hence this volume before us. The contents are as follows: 1st, Preliminary; 2d, Increase of Insanity; 3d, Insanity and Civilization; 4th, The Insane Diathesis; 5th, The Influence of Education; 6th, Industrial Education; 7th, Moral Education; 8th, Heredity; 9th, Consanguineous Marriages; 10th, Alcohol; 11th, Tobacco; 12th, Sex in Relation to Insanity; 13th, Poverty; 14th, Religion; 15th, Insufficient Sleep; 16th, Conclusion.

The author is a strong believer in the doctrine of heredity. To quote page 136: "In this hereditary influence there lies a power of incalculable value to the human race, a power conducing toward the elimination of morbid diathesis which otherwise would go on increasing in almost geometrical ratio until families or even whole communities would become diseased."

The book is an interesting one and can be read by the laity and medical profession with profit to both.

Anatomy, Descriptive and Surgical. By Henry Gray, F. R. S., Fellow of the Royal College of Surgeons, Lecturer on Anatomy at St. George's Hospital Medical School. With an Introduction on General Anatomy and Development, by T. Holmes, M. A. Cantab., Surgeon to St. George's Hospital, Mem. Corresp. de la Soc. de Chirg. de Paris. The drawings by H. V. Carter, M. D., Late Demonstrator of Anatomy at St. George's Hospital. With additional drawings in later editions. Edited by T. Pickering Pick, Surgeon to St. George's Hospital, Examiner in Anatomy Royal College of Surgeons, England. A new American from the Tenth English Edition, to which is added Landmarks, Medical and Surgical. By Luther Holden, F. R. C. S. With additions by William W. Keen, M. D. 1883. Calf, $7.00; half Russia, $7.50.

Philadelphia: Henry C. Lea's Son & Co.
Detroit: John Willyoung.

The publisher informs his readers that the present edition has passed through the press under the supervision of Richard J. Dunglison, M. D., which fact is a sufficient guarantee of its orthographical and its typographical correctness. He has also made such arrangements as seem calculated to make it more convenient for consultation and reference, two very important considerations for the advanced practitioner.

This edition has undergone a careful revision, and several portions especially in the section on microscopical anatomy have been considerably altered for the better, and entirely re-written in order to keep pace with the research in this department of the science of anatomy.

Several new illustrations have been added and some old ones replaced by others.

Gray's anatomy is the standard work on this subject in this country. We think it cannot be excelled in all its parts for the use of the student by any other work of its kind, and hence we have no hesitation in commending it. It is handsomely presented to the student and profession by its publishers and in so far as they are concerned it is a first class work.

A Practical Treatise on the Medical and Surgical Uses of Electricity, including Localized and General Faradization, Localized and Central Galvanization, Franklinization, Electrolysis and Galvano-Cautery. By George M. Beard, A. M., M. D., Fellow of the New York Academy of Medicine, Member of the American Academy of Medicine, Etc., Etc., and A. D. Rockwell, A. M., M. D., Fellow of the New York Academy of Medicine, of the American Academy of Medicine, Electro-Therapeutist to the Woman's Hospital of the State of New York, Etc., Etc. Fourth Edition. Revised by A. D. Rockwell, M. D. With nearly 200 illustrations.

New York: W. Wood & Co., Publishers, 56 and 58 Lafayette Place, 1883.

Detroit: John MacFarlane.

In noticing the third edition of this work, we expressed to our readers a very favorable opinion of its merits. This, the fourth edition, is an improvement on the former in that it contains all that was good in it, and also adds all that has been found of practical use since. As an illustration, the chapter on Franklinic Electricity has been entirely re-written, from the fact that so many improvements have been made in the apparatus and appliances, and its great

value as an adjunct or supplement to dynamic electricity.

Among the important new matter introduced is the experience of the author in the treatment of Extra-Uterine Pregnancy, in which the electric current is used to readily destroy the life of the fœtus, and without injury to the mother.

The work contains full information how to make use of this therapeutic agent, and illustrative cases in which it is beneficial.

It is a handsome volume of over 750 pages, and we have no hesitation in commending it to our readers.

Materia Medica for Physicians and Surgeons. By John B. Biddle, M. D., late Professor of Materia Medica and General Therapeutics in the Jefferson Medical College, Philadelphia. Ninth Edition. Revised, rewritten and enlarged in accordance with the 6th Edition of the U. S. Pharmacopœia. By Clement Biddle, M. D., U. S. N. With numerous illustrations.
Philadelphia: P. Blakiston, Son & Co., No. 1012 Walnut St.
Detroit: John MacFarlane.

Of the writers on materia medica for the past 20 years, but few were better qualified to write a work of the kind than Dr. John B. Biddle. The language used is choice, the descriptions of drugs are concise, yet full enough to furnish the memory with a practical knowledge of their history, properties and therapeutic uses, their doses and methods of administration. It is up with the times, and en rapport with the new U. S. Pharmacopœia. The most important alteration in this edition consists in changing the consideration of the action of medicine from the empirical to the physiological plan.

In studying the action of the drug on the economy, the following method has been adopted: 1st, local action; 2d, the nervous system; 3d, circulation, respiration, temperature, secretion and mode of elimination.

That this work has heretofore been appreciated by the profession, the issuing of the ninth edition satisfactorily proves. We have not the least hesitation, from a close examination, in commending it as a first-class work for the student and also for the practitioner. Pages 567, with a full index.

Types of Insanity. An Illustrated Guide in the Physical Diagnosis of Mental Disease. By Allan McLane Hamilton, M. D., one of the Consulting Physicians to the Insane Asylums of New York City and the Hudson River State Hospital for the Insane, etc. 1883.
New York: Wm. Wood & Co.
Detroit: John MacFarlane.

The object of the author in the present work is to put in simple form a few suggestions that may prove useful to medical men who, from time to time, meet with cases of insanity in their practice. Diseases of the brain make themselves known by well marked bodily symptoms and by facial expressions, which are in themselves as important as the many varieties of disordered mental action. The text treats of the general appearance of the insane, in which are included the physiognomy, posture, conformation of the head, etc. The condition of special organs, as the eyes, ears, mouth, teeth, tongue and nose. The condition of the bodily functions, the changes in dress, personal habits and hand-writing, and closes with an abstract of the laws of various states for commitment of the insane.

The illustrations are ten in number, and were drawn by Mr. T. J. Manley from instantaneous photographs. The subjects were selected from many hundreds of patients which the author believed typical. A description accompanies each plate. The typography, quality of the paper, and mechanical execution of the plates are excellent. The publishers deserve great credit for their portion of the work.

We cordially commend it to our readers as a very useful guide in the diagnosis of the various types of insanity.

The Book of Prescriptions. Containing upwards of 3,000 prescriptions from the practice of the most eminent physicians and surgeons, English and foreign. Comprising also a compendious history of the materia medica, lists of the doses of all officinal or established preparations, and an index of diseases and remedies by Henry Beasley. Sixth Edition.
Philadelphia: P. Blakiston, Son & Co., 1012 Walnut St., 1883.
Detroit: John MacFarlane.
Price, $2.25.

There is doubtless a class of physicians and surgeons to whom such a book is a necessity. In the interest of a higher medical education, we sincerely trust that its number is being gradually lessened. A medical man who has not the ability to prepare a prescription suitable and applicable to the case he is called to treat, should at once abandon the profession and give a clear way to those who can.

The book belongs to the same class as pocket memoranda, and brings to mind the case of the doctor who, after having examined his patient, was always taken suddenly short, and made use of his retirement to find a name for the disease, and the remedies to be employed in its treatment. There are some men men very handy in making a living from the fruits of other's labors, and Henry Beasley seems to be one of them. The book is neatly issued by the publisher, although we prefer to have the leaves cut, practically for a saving of time, and not so liable to be torn as by domestic cutting.

The Essentials of Pathology. By D. Tod. Gilliam, M. D., Professor of Physiology, Starling Medical College, formerly Professor of General Pathology Columbus Medical College Columbus, Ohio.
Philadelphia: P. Blakiston, Son & Co. 1883.
Detroit: John MacFarlane, Price $2.00.

The object of the writer is "to unfold to the beginner the fundamentals of pathology in a plain practical, way and by bringing them within easy comprehension to increase his interest in the study of the subject." In this we think the author has very well succeeded. The book is not intended to take the place of more elaborate works although it comprises fully as much as the student can at first reading comcomprehend. The illustrations are familiar ones and doubtless have performed their duties in various other works. It would be exceedingly gratifying if every author would prepare his own illustration: there would then be a freshness in them that would attract a much closer attention. It is practically a students book, and we have no hesitation in recommending it.

A Pocket Book of Physical Diagnosis of the Diseases of the Heart and Lungs, for the Student and Physician. By Dr. Edward T. Bruen. Demonstration of Clinical Medicine in the University of Pennsylvania, and Assistant Physician to University Hospital, Lecturer on Pathology, Woman's Medical College of Philadelphia. Second edition revised with additional illustrations. Price $1.50.
Philadelphia: P. Blakiston, Son & Co.
Detroit: John MacFarlane.

This is a capital little book and the author handles his subject with the hand of a master. Every physician and student knows what is meant by physical diagnosis. It is, therefore, sufficient to say that if

this work be well studied and the student have ordinary mechanical genius and fair acoustic ability there is no reason why he cannot become a good diagnostician of diseases of the heart and lungs and of other diseases pertaining to the cavity of the chest. We have not the least hesitancy in commending it to our readers.

The Roller Bandage. By William Barton Hopkins, M. D., Surgeon to Out-door Departments of Pennsylvania Episcopal and University Hospitals, Assistant Demonstrator of Surgery in the University of Pennsylvania, Fellow of the College of Physicians of Philadelphia, Etc. With seventy-three Illustrations.
Philadelphia: J. B. Lippincott & Co., 1883.

This is a very useful little book of ninety-five pages. Its object is to teach bandaging by numerous illustrations, rather than by elaborate description. Every way in which the roller can be applied is given, and the best forms of application are fully illustrated. To the student it is just the book he wants, for by its aid he may, in a very short time, learn the whole science of bandaging. A full index is appended.

Therapeutic Progress.

Nervous Indigestion.

Under this heading Dr. J. Milner Fothergill, of London, contributes one of his characteristically readable articles to the New York Medical Record of September 15th. He makes the following subdivisions of nervous indigestion, namely, reflex indigestion, indigestion due to the effects of mental strain and worry upon the digestive organs, the effects of malproducts of digestion upon the brain, and a condition due to a combination of the two latter causes.

Reflex indigestion may be said to be the malady of women, for it is in women that we see reflex disturbances of the stomach best exemplified. We know that nausea and vomiting are the outcome of vesical calculus, of a pregnant uterus in the early months, and of a blow upon the testes. So also ovarian irritation will set up gastric symptoms, which are usually taken for primary indigestion. The subject of indigestion of this nature is usually a comparatively young woman with pallid features and suffering from general anæmia, although these cases are by no means necessarily characterized by all of these symptoms. She complains of distress soon after taking food, which distress is often associated with nausea, loss of appetite and less frequently with actual vomiting. In spite of this gastric disturbance the tongue is clean, or at most has a very slight coating, and there is rarely any rawness or approach to the bare tongue of gastric irritability. This condition of the tongue, associated with the disturbance referable to the stomach, is sufficient to put the experienced observer on his guard. Pressure being made over the region of the ovaries in those cases tenderness is detected, and this is accompanied by a sickening pain, giving a feeling of faintness generally reflected in the patient's features. Usually she asks to sit down. In a well-marked case the following symptoms, sometimes a few only, but often all, are manifested, much depending upon the patient's intelligence and readiness to answer: 1st. If there be pain produced upon defecation there will be reflex constipation, the pain inhibiting the vermicular action of the bowels. Then there will be found "pain under the heart," as women term it. This is an intercostal neuralgia with the three tender spots of Valleix only at the left apex. 2d. At the outer edges of the left scapula, about the middle, and a third at the foramen of the posterior rootlet of the nerve, usually the sixth.

Waves of nerve perturbation may arise in an ovary and traverse a series of nerve fibrils until they reach the peripheral endings of an intercostal nerve where they are felt as gusts of neuralgic pain. There will also usually be associated with these symptoms pain and weight at the vertex, with depression or lowness of spirits, and a tendency to cry—the outward indications of cerebral anæmia of the posterior lobes found with irritation in the lower bowel and the generative organs. Such is the real pathology of those cases of so-called subacute gastritis in young females, where obstinate vomiting goes on for weeks, resisting all treatment of the stomach, scoffing at bismuth, hydrocyanic acid, oxalate of cerium, and all remedies of value in morbid conditions of the stomach. In these cases the patient is greatly reduced, the friends become almost distracted, and the physician worried out of his life. The text books contain little or no information which may serve as a guide to the practitioner in this class of cases, and frequently when there exists the slightest excuse in any pulmonary disturbance, the victims are declared to be the subjects of phthisis. They are evidently a class of people who call for more attentive study than has heretofore been given them.

Having made the diagnosis, the treatment suggests itself: 1st. To apply a blister over the tender or otherwise offending ovary. Then give bromide of potassium, the drug *par excellence* in all reflex affections, and sulphate of soda or magnesia for the constipation. If there be much sickness at the stomach bismuth, with or without hydrocyanic acid, and soda may be given as an auxiliary. Sometimes the result is not very satisfactory as to time, while in those cases where the morbid ovary is bound down by adhesions, relief is all that is practically attainable. The bulk of cases, however, readily do well, with gratitude on the part of the patient and with credit to the physician.

In referring to indigestion due to mental strain and worry as they affect the digestive organs, Dr. Fothergill makes some statements which, though somewhat at variance with the views which it has been customary to hold on this subject, are nevertheless sufficiently rational to commend themselves to the thoughtful care of the physician. The lean and hungry man has ever been regarded as the type of the brain worker, including the conspirator, while he of the rubicund visage, indicating a well-fed man, has ever been looked upon as the man of easy mind. Such generalizations are broad and true, but the subject admits of closer handling in the light of the present day. It may be well for practical purposes to regard the body as charged with a definite amount of nervous energy, the centering of which in any one particular part is at the expense of other parts. In this greatly striving age, the pressure of business absorbs so much of the daily store of energy that the digestive organs are robbed of much of the *vis nervosa* that belongs to them, and are thus only capable of digesting light

food. Of old, when anything uncommon had to be done, a good foundation was laid by a substantial breakfast, something in excess of the wonted fare. This was very well for men who were out in the open air, in the chase or war, but it is not a safe practice at the present time, except with those whose digestive organs are unimpaired and retain much of their primitive Anglo-Saxon capacities. The rule of the present day is rather in the opposite diredtion, namely, to have a very light meal after any special demand upon the system, possibly with some alcohol, though on this last the right of private judgment is brought to bear more than on any other matter connected with health. It is, moreover, bad practice under our present modes of life to close a hard day of labor with a full meal. A light meal and a little wine, as Timothy has wisely counseled, are the proper method of meeting such an emergency in our day. What can be digested without drawback under ordinary circumstances, will not be satisfactorily digested when the system is exhausted, either by bodily or mental toil.

The effects of acute emotion in upsetting the digestion are thoroughly recognized. In fact, anorexia is so set up, and the food which would not be digested is not taken. But we are still far from comprehending fully the more chronic effects of wearing care and anxiety, although the fact must be recognized that where the mind is greatly exercised, while the body is insufficiently exercised, dietary must be regulated accordingly. The busy brain-worker must learn to see that he cannot tax his system at will. If he will not be told, he will be made to comprehend the subject. He had better adopt the habits of an invalid in order that he may not become one. He had better take care before he breaks down, than wait until he is broken down, and to take care of himself with his working power crippled.

The preventive treatment of neurosal indigestion is quite as important as the palliative treatment when once established. The lines are the same in both, namely, to give easily assimilable food, rich in fat, and containing albuminoids, but in sparing quantities, to allow a proper time for meals, and a sufficiency of sleep. In addition to this hygienic treatment, phosphorus may be given. Phosphorus and fat in combination are the food of the brain *par excellence*, and to a dietary rich in fat it may be well to add phosphorus in pill, or, better still, in the syrup of hypophosphites. Yet when all this has been done, and the latest lessons of physiology worked out by the chemist and placed at the patient's service by his physician, there comes that indispensable factor, which the patient alone can do, namely, the proper care of himself. The body demands its seasons of repose, and the man who preserves his working power the longest is he who does not add a day's play to a hard day's work, but who, after the cares of the day, spends the evening in quiet intellectual pleasure, thus unbending the bow, while adding to the store of knowledge. Instead of bolting his food and rushing off to the theatre, the billiard table, or other places of amusement, he spends his evenings in the manner indicated, and retires at a seasonable hour to his cool bed-room, where in quiet sleep he gives the jaded body and mind physiological rest.

It is a mistake to suppose that meat imparts strength under all circumstances. Constantly patients, not with primary indigestion, for that pretty well regulates matters itself, suffering from malassimilation come under notice, who have been eating all the animal food they can get down, under the impression that this is the plan to adopt. They have studied the advertising columns of the newspapers, read of iron and quinine wine (an admirable tonic in mere asthenia or debility), and have added that to their meat dietary, but in spite of this they grow visibly weaker. In these cases the liver is at fault, and when this organ is not working well, nothing will further derange it more certainly than a chalybeate. In these cases the albuminoids, which reach the liver by the portal vein, are not liberated and passed forward as the serum albumen of the liquor sanguinis, but are thrust downwards as bile acids or lithates, to crowd the liver with albuminoids by a meat dietary, the naturally digestive powers being helped by artificial digestive agents to still further embarrass it. The attempt defeats itself. The mal-products of assimilation find their way into the blood and act as toxic agents, enfeebling the mental processes, involving the mind in gloom, and depriving the unhappy invalid of all pleasure in life, until death becomes positively attractive. Such are the untoward outcomes of the delusive attempt to gain, or rather regain, strength of mind and body by a highly nitrogenous dietary. Yet the proper treatment of such cases is met by prejudice, by preconceived opinions. Your wisely regulated dietary is described as "starving the patient." You strive to sweep out the nitrogenous waste by a mercurial followed by some sulphate of soda, and this is held to be "too reducing." You are liable to be scoffed at as an "antiquated quacksalver" who has no right to exist outside of a museum of antiquities, but in spite of this the above regime will have to be adopted if such cases would recover. A neglect of it is doubtless responsible for many of the ailments of modern life. Overwork, if Clifford Allbut is to be believed, and over-cramming of meat, if others of equal authority are to be credited, have much to do in upsetting the liver first, and damaging the kidneys afterwards, to say nothing of the lithiasis, cholæmia, and toxic oxalates which belong to this condition of secondary indigestion, while the relations of glycosuria to over-taxation of the nervous system are now well recognized. This may be an unacceptable doctrine, but it is to be feared it is true and well founded.

Naphthol—Its Medicinal Uses and Value.

In a paper under this title, read before the Philadelphia County Medical Society on the 17th ult., by Dr. John V. Shoemaker, Physician to the Philadelphia Hospital for Skin Diseases, that distinguished dermatologist calls attention to naphthol in a manner calculated to ensure for that drug a more extensive trial by the profession of this country, than has yet been accorded it.*

Naphthol is a derivation of napthalene, a hydrocarbon found in large quantities in coal tar, belonging to the so-called aromatic group. It bears the same relation to naphthaline that phenol does to ben-

*[The copy of this valuable paper with which we have been favored in advance of its publication elsewhere, was received too late for its reproduction in full in this issue of the THERAPEUTIC GAZETTE. We are thus obliged to confine ourselves to a synopsis of it. Readers desiring to peruse it in full may address Dr. Shoemaker for a copy, which he will furnish.—ED. THER. GAZ.]

zol, and cresol to toluol. It was first employed by Prof. Kaposi as a substitute for tar in skin diseases. being considered by him as the essential curative ingredient of that substance, while being free from its objectionable features. The preparation employed in the cases which form the basis of Dr. Shoemaker's report was that made after the method of Dr. Justus Wolf, being free from odor and coming in beautiful crystalline scales. This preparation decomposes under the influence of heat when it again becomes odorous and pungent. The commercial naphthol contains impurities which unfit it for use in medicine. Naphthol thus properly purified is an extremely powerful antiseptic and disinfectant. One part added to 480 of urine kept the latter from decomposing for six months, while another sample of the same urine to which naphthol was not added had a strong putrid odor at the end of eight days. The addition of the naphthol to this putrid sample divested it of all odor within twenty-eight hours.

Dr. Shœmaker's therapeutic experiments extended through some nine months and sufficed to convince him of the great value of naphthol in medicine.

He found it to fully sustain the claim that Kaposi had made for it in scabies, psoriasis and chromophytosis, as well as in some of the chronic forms of eczema, in which it not only allayed the itching attendant thereon, but lessened the infiltration as well. In wounds and indolent ulcers it is a most useful detergent and deodorant, removing the fetor and establishing healthy action of the parts. Aqueous solutions, containing half grain to the ounce, were used to great advantage as vaginal injections, especially in leucorrhœa and uterine carcinoma, as well as in gonorrhœal affections, both in male and female. In diphtheritic throat affections it made a most useful gargle, as well as to remove the fetor of catarrhal and other affections of the buccal cavity. Its greatest value, however, arose from its disinfectant action of the evacuations of fever patients and rooms containing them, while by its absence of odor it did not tend to produce inconvenience either to patient or attendants. Combined with powdered talcum or starch, or both, and dusted into the shoes or stockings of those affected with fetid exhalations of the feet, it acts most satisfactorily, and its effects are equally as good in the same affection involving the hands, axillary and inguinal regions. Combined with other ointments in the proportion of from one to ten grains to the ounce, it not alone preserves the unguent from decomposition, but exercises also an antiseptic action on the parts and the exudation therefrom. A slight admixture to an experimental sample of lard preserved the same in excellent condition throughout the hot summer months. In chronic psoriasis, particularly when there is great infiltration, a five to fifteen per cent. ointment was frequently attended with good results. It also proved very effective in squamous and fissured eczema, used in combination with lard or gelatine.

After his long and successful employment of naphthol Dr. Shoemaker was surprised to find that serious untoward effects had been reported from its use by foreign authors. With a view to further testing its toxic properties he first administered to a rabbit internally in a saturated solution. But on discovering no injurious effect he selected another rabbit which he determined to poison with a view to observing the *post mortem* appearances. He accordingly gave it at first one-grain pills of naphthol every three hours, and subsequently increased the amount to two grains and again to four grains at the same intervals. But beyond increasing the animal's appetite no effects were apparent. Following these experiments two of his assistants took numerous and large doses (reaching as high as five grains twice a day) without other effect than a sensation of temporary warmth in the epigastric region after each dose and subsequent slight vertigo and buzzing of the ears, with other evidences of hyperæmia. The alvine evacuations were softened to a mushy consistence and changed to a clay color; in one instance diarrhœa occurred. The deduction from these experiments clearly is that in the case of the ill-effects reported an impure preparation had been employed.

Dr. Shoemaker pronounces purified naphthol to be far superior to carbolic acid and the other antiseptics which have been in vogue, while it is almost absolutely odorless. It has the advantage also of being cheaper than carbolic acid, when the amount required to produce its effect is considered.

Bromide of Ethyl.

The demand for a safe, pleasant and rapidly acting anæsthetic still continues. It was supposed when the bromide of ethyl was introduced by Drs. Levis and Trumbull, two or years ago (the circumstances of the introduction of which will be recalled by our readers), that a desideratum had been supplied. After a long and very successful trial by these gentlemen, it will be remembered that the new anæsthetic proved very disastrous in the hands of Dr. J. Marion Sims. This ill success in the practice of this distinguished surgeon was sufficient to invest the new anæsthetic with a suspicion, and naturally this suspicion was sufficient to interfere with any further trial of the drug by the general profession. Bromide of ethyl, therefore, fell very rapidly into disuse, and during the past two years little or nothing has been heard of it. It seems, however, that Dr. Julian Chisolm, professor of diseases of the eye ear in the University of Maryland, was not of those who were discouraged from its use by the accident which befell it in Dr. Sims' practice. From a previous trial of it he was satisfied that it possessed very decided advantages, and determined, in the face of the ill-repute into which it had fallen in the judgment of the profession, to accord it that thorough trial which alone could determine its fixed place among anæsthetics. In an article in the Maryland Medical Journal Dr. Chisolm gives the result of his three years' conscientious trial of the drug. In his opinion it is an anæsthetic which requires more than ordinary familiarity with it, in order that its peculiarities may be thoroughly discovered by the surgeon. These peculiarities once detected, the anæsthetic is, in Dr. Chisolm's opinion, the most pleasant, safe and prompt of any which have heretofore been employed. He now, to use his own words, obtains the most brilliant results from it, and has become quite enthusiastic in its praises. In every patient using the needful precautions he has produced complete narcosis in less than one minute, often in from twenty to thirty seconds. Recovery from this speedily induced narcosis is rapid and complete, with neither nausea nor heaviness, so that, as a rule, five minutes after the inhalation the patient is as much himself as if no anæsthesia had been induced. Dr. Chisolm then

details a number of cases which certainly tend very strongly to sustain his opinion of bromide of ethyl, as above expressed.

Experience has, however, taught that bromide of ethyl is not an anæsthetic which can be advantageously repeated, or continued for any length of time in any given operation. Its wonderful action is obtained during the first minute of its inhalation, and what Dr. Chisolm terms its "primary anæsthesia." It is, therefore, an anæsthetic peculiarly adapted to short operations, such as the opening of abscesses, sinuses, the probing of wounds, incising strictures, tenotomy, cauterization of surfaces, examination of recent fractures, and minor amputations. He has found it particularly advantageous in eye and ear surgery, the majority of operations in which are such as when skilfully performed, require but a very short time.

To use the bromide of ethyl efficiently one must have confidence in himself, and in the safety of the agent which he is administering. The mode of its administration should differ totally from that employed in the exhibition of chloroform. Instead of a chloroform vapor freely diluted with atmospheric air, a saturated ethyl vapor must be inhaled to the exclusion of atmospheric air, in order to obtain speedy and effectual narcosis. It, of course, requires the utmost confidence in the safety of the anæsthetic to enable the surgeon to administer it in such concentration. The best inhaler for the giving of it is a thick towel folded in the form of a small cone with closed apex. Between one of the folds of the towel a sheet of paper should be placed, thus making the cone nearly air-tight. The base of the cone must be wide enough to enclose both mouth and nose, the soft material of which the inhaler is made enabling the rim to be kept firmly in contact with the face, so as to exclude air from entering. Into this towel-cone pour one drachm of the bromide of ethyl and immediately invert the inhaler over the nose and mouth of the patient, holding its edge down firmly over the face. We have Dr. Chisolm's authority for the statement that there is no fear of creating asphyxia, as all air can be excluded, and the height of the cone makes a considerable air-chamber into which the patient breathes. Children struggle to escape from the apparatus, but the cone must not be removed from the face for an instant until anæsthesia is produced. At first some will not breathe the vapor, but there is no fear that they will not catch their breath in time. The crying of children only insures inspiratory efforts which the more surely and quickly will bring about the introduction of the vapor into the lungs. As a rule, a dozen full inspirations are all that are needed to produce deep narcosis, which condition is recognized by the stoppage of all struggling.

In conclusion Dr. Chisolm declares that the bromide of ethyl can never take the place of chloroform or sulphuric ether where any heavy operations are to be done. These well-known and tried anæsthetics must continue in favor for all tedious operations, and will be used by all those who manipulate slowly, and who do not have prompt, quick assistants. But when one can take advantage of a primary anæsthesia from the first administration of the bromide of ethyl, and having made every preparation in advance, will manipulate quickly, the new anæsthetic leaves nothing to be desired.

Muriate of Quinine.

Custom and habit have a very strong influence in determining the use of particular drugs, the choice of which may originally have been merely the result of accident or commercial convenience. With a statement to this effect Dr. Joseph Mixsell, of Philadelphia, opens an article in the Medical News under the heading of muriate of quinine. The assertion studied in connection with the medicinal application of the principal alkaloids derived from cinchona, will be found to have a peculiarly strong application. So thoroughly has the use of the sulphate of quinine become the custom with the profession, that when the term "quinine" is employed the reference is, by common consent, to this salt. Why it is that the sulphate has thus achieved its hold upon the profession is not apparent in any inherent superiority which attaches to this salt. Dr. Mixsell undertakes in his article to establish the fact that the muriate of quinine is much to be preferred as a therapeutic agent, and that the popularity which the sulphate has achieved has been due to commercial rather than therapeutic reasons, the sulphate being a salt of much more easy preparation than the muriate. He gives the following six reasons why the muriate should take the place of the sulphate in practice: 1st, the advantage of superior alkaloidal strength; 2d, more rational therapeutic combination; 3d, prompter action due to speedier absorption; 4th, more extensive range of pharmaceutic compatibility; 5th, readier solubility without the aid of acid; 6th, better toleration by stomach or rectum. The comparative richness in the basic element is well shown by the theory of its composition as formulated in the U. S. Pharmacopœia: $C_{20}H_{24}N_2O_2$, HCL_2H_2O, requires a percentage of 81.71; that of the sulphate being 73.5 (misstated on page 1212 of the National Pharmacopœia, 2d edition, as 85.0) and the bisulphate 59.1 The difference in favor of the muriate is thus respectively 8.21 and 22.6 per cent. By actual analysis made with great care, in every instance verified by the process known as acid determination, whereby the most common source of error in the estimation of quinine strength is avoided—that of the invariable loss of washing the precipitate whenever the direct process is employed—it was found that an actual alkaloidal yield of from 81.4 to 84 per cent. was obtained, probably due to loss of some of the water of crystallization.

The identity of therapeutic applicability possessed by quinine and hydrochloric acid will be questioned by few. Both exhibit azymotic properties in the highest degree. The increased readiness of absorption of the muriate as compared with the sulphate must have been apparent to anyone who has employed the former. Its chemical relationships give it a wider range of pharmaceutic combination than the sulphates possess.

The principle objection to the use of the muriate of quinine as a substitute for the sulphate, lies in the fact of its increased cost. This cost, however, as Dr. Mixsell points out, is really out of proportion to the extra amount of care and skill required in the preparation of the muriate, and he sees no reason why this salt should be as costly as it now is. It is the very property which makes the muriate of quinine a superior therapeutic agent that adds to the cost of its preparation, namely, its extreme solubility. This increased solubility renders its crystal-

lization from the mother liquid tedious and difficult, and demands a higher degree of intelligence on the part of those conducting the operation. This item of expense might, however, be obviated through the use of the salt in its amorphous form, which has been found to be equally active, if not superior, to the crystallized form. The amorphous muriate of quinine is not as yet on the market in this country, but if its advantages were thoroughly appreciated the demand would, doubtless, be soon supplied.

The Aliptic Art—Massage with Oil.

Under the heading of "The Aliptic Art," Dr. Frederick Peterson recently read an article before the alumni association of the medical department of of the university of Buffalo, which was published in the Medical News. He traces the history of this art to a very remote period of antiquity, and quotes the literature of the ancients to show that it was popular particularly among the Greeks and Romans. The art consisted essentially of embrocations of the body with oil. It seems to have been held in very high repute both as a therapeutic measure, and as a means of nutrition, and in reading the quotations with which Dr. Peterson favors us, one cannot but be struck with the similarity of this art to the so-called Weir-Mitchell treatment of these latter days. The affections in which it was recommended were gout, rheumatism, sleeplessness, satyriasis, dysmenorrhœa, the pruritus of jaundice, asthma, colic, cholera, renal calculus, alopecia, paralysis, obesity, as a revulsive in brain diseases, etc. In each of these affections the oil or other material employed as embrocations varied with the nature of the affection, but undoubtedly the chief benefit in every case was traceable to the rubbing. Coming down to more modern times, we have reference to the practice of rubbing, in works by Pichler, in 1781; Pienitz, in 1803; Frank, in 1809; Zavagli, in 1822; and in 1848, Schullmann, devoted a book to the description of his method of anointing with fat in scarlet fever, which method he declared to be an effectual one and devoid of danger. He regarded these inunctions as not only valuable as concerns the patient, but as a means of prophylaxis; "owing to the fatty covering the skin is kept moist and the cuticle prevented from being driven about the room by currents of air, and thus one fertile source of infection is kept closed up." In 1850 Taylor wrote a work on friction with lard and beef suet, giving cases of cure of typhus, scarlatina, measles, dropsy, nervous diseases, delirium tremens and hydrocephalus.

In the Lancet, in 1870, is an article on the use of warm oil bandages in the diseases of children—atrophy, bronchitis, convulsions, diarrhœa, fevers and cachexias—which is summed up as follows: 1st. The skin action is more completely and permanently restored by this treatment. 2d. The danger of reaction is avoided if there is any sudden change of temperature, and moreover, the sheet of oil protects the surface from atmospheric influence. 3d. It acts as a fuel food, not only preventing waste of tissue, but actually increasing the bulk of the little patient. 4th. It does not depress, but on the contrary appears to exhilarate.

The "Aliptic Art" has of late years been brought more prominently to the notice of the profession through the Weir-Mitchell method, although in this latter method the chief benefit is directly ascribed to the rubbing, kneading or massage. Doubtless the use of oils would increase the efficacy of the method in a very large class of cases. The possibility of nourishing by means of the external application of fats and other nutritious material is no longer doubted, and the advanced physician will resort to those methods in those cases of stomach and bowel affections in which it is necessary to secure physiological rest to these organs. The usefulness of this method as a therapeutic measure will be very much enhanced through the introduction of the oleates. The successful combination of alkaloidal principles and metals with oleic acid, within the last year, has opened up a new resource which has in it the possibilities of great advancement in the direction of therapeutics.

Croton-Chloral in the Treatment of Whooping Cough.

The antiseptics which have been employed in whooping cough have, at best, been attended with very unsatisfactory results. Although croton-chloral has been employed in this affection, its use has not been sufficiently extensive to establish its real value. Dr. W. C. Webb communicates to the American Practitioner for August, 1883, the results of his experiments with this preparation, based on a sufficient number of cases to vest his opinions with a considerable degree of importance. He treated nearly 200 cases of whooping cough, and concludes that croton-chloral is by far the most valuable single remedy for its relief. He found it to be well borne, even by children. To secure its best effects, it must be given in very decided doses. A child 12 months of age will bear without inconvenience one grain of the medicine every four hours during twenty-four, and during the first week not less than that amount should be given. After this the cough will be found to be so materially relieved as to justify the suspension, particularly during the night. The drug thus pushed to its full effect will be found to bring relief in the great majority of cases within a fortnight. The dose for children ten years of age should be two grains every four hours, and adults will bear about only four grain doses. The first few doses will cause some irritation of the throat aed fauces, but this soon disappears. The relief is so marked in many cases that the patients fall asleep in their chairs. The following is a good prescription for the administration of the drug:

℞ Croton-chloral, 1 drachm.
Tincture cardamon,
Glycerine, ăă 2 ozs.

Mix. Sig.—One half teaspoonful every four hours for a child two years old and under.

Another useful prescription is as follows:

℞ Croton-chloral, 1 drachm.
Tinct. belladonna, 2 drachms.
Tinct. cardamon compound, 2 ozs.
Glycerine, 3 ozs.

Mix. Sig.—Dose, half teaspoonful.

If the paroxysms of cough are very severe, and if there is much gastric irritability, the croton-chloral should be preceded by a few whiffs of chloroform. This use of the anæsthetic is followed by the happiest results, and need not be repeated more than two or three times. While croton-chloral in the doses recommended is almost absolutely void of danger, it will still become those having a child in charge to be on the alert, lest possibly toxic symptoms should develop.

Galium Aparine (Cleavers) as a Remedy for Chronic Ulcers and Cancers.

Galium aparine is an annual succulent plant, common to Europe and the United States. It is inodorous, has a bitterish, herbaceous taste. An analysis of it has shown it to contain three distinct acids, namely, a variety of tannic acid, called galli-tannic acid, citric acid, and an acid described as rubichloric acid. It has been accredited with curative properties in congestion of the spleen, scrofula, scorbutic eruptions and lepra, while the fresh herb in the form of an ointment or decoction has been applied externally to scrofulous swellings, with supposed advantage. A new therapeutic property has now been attributed to it by J. B. Quinlan, M. D., Dublin. Dr. Quinlan, in a communication to the British Medical Journal, extols the use of cleavers as a remedy in chronic ulcers—a class of cases which is a perennial torment to the medical profession. The great difficulty in the treatment seems to be the impossibility of maintaining healthy granular action, and strapping, sponge-grafting, skin-grafting and the application of irritants, such as mercuric oxide, silver nitrate, and cupric sulphate, are often tried in vain. Dr. Quinlan was induced to try the effects of cleavers in these cases through letters which he had received from various parts of the united kingdom. His method of applying the drug is as follows: Grasping in the left hand a bundle of 10 or 12 stalks with a pair of scissors held in the right hand, the bundle is cut into pieces about half an inch long. These are thrown into a mortar where they are thoroughly contused. This mass, which has an acrid taste and a slightly acrid smell is made into a large poultice and applied to the ulcer, and secured by a bandage. Its action appears to be a slight ready stimulant and powerful promoter of healthy granulation. Its effect as noticed by Dr. Quinlan, was decisive and plain to all in the most unhopeful case, in which healthy action ensued and continued. Dr. Quinlan gives the details of a number of cases treated after this manner.

In a note contributed to a subsequent number of the British Medical Journal Dr. Chas. Boyce testifies to the value of galium aparine as a palliative for cancer. The method of its employment is the administration of 5 ounces of the juice of the plant to be taken twice daily; at the same time an ointment of the juice is to be applied to the cancerous ulcer, laying bruised cleavers over it, and keeping them constantly applied and renewed. The amendment is very gradual, so that steady perseverance in the use of both internal and external means is necessary. It certainly seems to have, according to Dr. Boyce, the power of arresting ulcerative action and promoting a more healthy one. Dr. B. refers to articles written twenty and thirty years ago in the periodicals, in which this use of cleavers is highly recommended.

Tongue in Health and Disease.

Dr. A. W. Wallace, condenses, in the September number of the Midland Medical Miscellany, Dr. Beale's remarks on the tongue, as contained in his admirable little work on slight ailments. A healthy tongue is best known by negative characters, rather than by what it is. In order, therefore, to define the healthy tongue the following conditions are to be excluded: First, the creamy white tongue, which denotes unremoved epithelium and metabolism of tissue in abeyance. Second, the furred tongue in which the papillæ are elongated, and to which the epithelium adheres in long threads; this tongue is characteristic of inflammation. Third, the pale, sodden, tooth-marked tongue, which is indicative of anæmia. Fourth, the red tongue (*a*) with enlarged papillæ, as seen in the "strawberry tongue" of scarlatina; (*b*) the smooth and glazed, as in the "irritable tongue," which corresponds to the irritated mucous membrane elsewhere, as in the lung from phthisis, or intestines from diarrhœa. Fifth, the dry, brown tongue, pathognomonic of the typhoid state, in which blood exudes and dries on its surface, the secretion of saliva being nil. Sixth, the aphthous tongue, which is often followed by "punched out" ulcers. This condition of the tongue is not particularly significant of any constitutional disturbance. It is more properly a local affection, and is to be treated with the chlorate of potash. And seventh, the red, fissured tongue, which is generally called syphilitic. Dr. Beale, however, says that this is not necessarily syphilitic, although he has found that the exhibition of the iodide of potassium, with or without small ($\frac{1}{12}$ of a grain) doses of biniodide of mercury is the most successful treatment.

The Influence of Calomel on Fermentation and Bacteria.

Experiments conducted in Hoppe-Seyler's laboratory tend to establish a very decided influence of calomel on fermentation and bacteria. It was found that while the presence of one part of calomel in from 20 to 100 parts of fibrin or fat did not interfere with the action on the unorganized ferments of the saliva, gastric juice and pancreatin juice, the formation of certain of the products of decomposition was prevented. It was found, too, that calomel has the effect of preventing butyric acid fermentation; and other experiments, extensively made, combine to establish the fact that calomel destroys organized ferments, but is without effect upon the unorganized ones.

The above experiments were made outside the body, and in order to determine the effect of calomel in the living body, experiments were made on three dogs. They were given one grain of calomel each, and after some hours were killed. The intestines were ligated in the upper part of the duodenum and in the lower part of the colon, and the entire contents were carefully examined. In no case could putrefactive products, indol, skadol, hydrogen, sulphide, etc., be detected.

These experiments would seem to throw considerable light upon the rationale of the treatment of certain affections of the bowels of infants. The administration of small doses of calomel in certain forms of infantile diarrhœa or dysentery, has long been recognized, and the treatment has been popular even in spite of the fact that physiological investigations have shown that calomel is without effect in influencing the secretion of the liver, to the disturbance of which these bowel affections were formerly supposed to be due.

This action of calomel in arresting decomposition and fermentation tends also to throw light upon the etiology of these bowel affections.

New Remedies.

Boldo.*—Boldo belongs to the monimiaceæ, and is a native of Chili. Molina described it in 1872, under the name of Peumus Boldus; it was called successively Ruizia fragrans, Peumus fragrans, Boldoa fragrans; but Mr. Baillon returned to it its first name, Peumus Boldus.

Boldo was brought to France in 1868—69, owing to its reported curative power in liver complaints.

It is an evergreen tree about eighteen feet high, with cylindrical branches bearing opposite boughs growing from the axil of the leaf. The bark is thin, adheres to the wood, is of a light brown color, and very fragrant; the wood possesses little of this last quality The flowers are in cyma clusters, axillar and terminal; they are diœcious.

The leaves, in drying, change from a green to a reddish brown color; they are cartilaginous, and their surface is covered with small glands. Their odor resembles that of the lauraceæ, and of the labiates. When chewed slowly, their taste is refreshing and spicy.

One of the active principles of the plant is the essential oil, it is secreted in special cells distributed in the petiole and margin of the leaf; also in the bud, the herbaceous covering of the stem, the pith, in a word, almost in all the plant.

The writer undertook the chemical analysis of two samples of boldo; one procured from Mr. Fabian, Chili, the other from the Pharmacie centrale of the hospitals, Paris.

Submitted to analysis, these two samples gave, on being successively treated with ether, alcohol and distilled water, the following:

Essential oil, two per cent.; a bitter principle called boldine, one per thousand; citric acid, lime, sugar, gum, tannin, a large quantity of aromatic black, thick matter, probably formed by the oxydation of the oil.

The oil is the most abundant product furnished by the plant.

The great number of the oil-bearing cells, and their existence all through the plant, allowed one to expect that the distillation of the leaf would give an abundant product. The fact has been verified in repeated operations by a yield of twenty per thousand; yet, this quantity is small in proportion to the aromatic thick matter left behind in the retorts.

The oil was obtained in two different ways: 1, by treating the bruised leaf directly with ether in a percolating apparatus; 2, by steam distillation. The yield was the same, and the chemical reactions of both products prove their similarity. They are as follows:

Solubility.—Both are very sparingly soluble in distilled water, to which they impart their taste and odor, giving it a reaction slightly acid to litmus paper. They are very soluble in alcohol 85 per cent.; the solution burns with a very bright flame. Unmixed, they catch fire from a lighted match, and burn with a fuliginous flame.

Bisulphite of Soda.—No solid compound is formed, therefore no aldehyd.

Monohydrated Sulphuric Acid.—Immediate hyacinth-red coloration.

Nitric Acid.—Violet coloration, manifested by degrees, in a reaction which produces heat at the same time.

Muriatic Acid.—Bleaching takes place; the excess of acid is precipitated to the bottom of the proof-glass, where it keeps a lactescent appearance, while the oil which floats on the surface is discolored and clear.

Muriatic Acid Gas.—Discoloration.

Potash.—Red coloration.

Iodine.—A brisk effervescence at first; then the iodine disappears in the mass, which becomes colored and much thickened.

* M. Cl. Verne, in the Repertoire de Pharmacie.

PREPARATION OF BOLDINE.

Two kilogrammes of stems, without leaves and coarsely pulverized, are allowed to macerate for twenty-four hours in a water bath, with water, to which sixty grammes of acetic acid is added. The mass, submitted to pressure, yields a light red liquid which is to be filtered and then evaporated in the water bath to syrupy consistence; the acid extract is poured into a glass-stoppered vial, washed several times with ether in order to remove the coloring matter, and treated, after decantation of the supernatant liquid, with bicarbonate of soda, to alkaline reaction; at that instant, there appears a brisk effervescence. The mass thus saturated is shaken with ether in order to take up the free alkaloid, and the latter, by evaporation at a very low temperature, gives a strongly alkaline residue of a peculiar odor; it is impure boldine, accompanied by a very tenacious oleoresinous matter.

It is purified by several precipitations; dissolving it in water acidulated with acetic acid, and precipitating it afterwards with ammonia, cautiously added, boldine being soluble in an excess of alkali.

The product, thus obtained almost pure, is washed in a Swedish filter, with distilled water, which carries off the last traces of ammonia; it is then dried, away from air and light, under a blue glass bell enclosing quick lime and monohydrated sulphuric acid,

Boldine is an alkaloid very sparingly soluble in water, to which it nevertheless communicates an alkaline reaction and a manifestly bitter taste. It is very soluble in alcohol, in chloroform, and in concentrated alkalies, and slightly in benzine.

It combines easily with acids to form saline solutions neutral to litmus paper: they are precipitated by ammonia, and iodohydrargyrate of potassium; with iodine water they give a maroon precipitate.

Nitric and sulphuric acids concentrated color it red at once.

Boldo can be exhibited in various pharmaceutical preparations; such as alcoholic extract, aqueous extract, tincture, wine, syrup and elixir.

From the chemical analysis above given, the aqueous preparations will naturally be set aside for the alcoholic, since alcohol is the best solvent of the active principles contained in the plant. One important point is that the taste be pleasant, or, at the very least, not repugnant to the patient. The tincture and elixir combine these two conditions, and can be taken readily.

The alcohol which centers in these preparations communicates to them the refreshing and aromatic taste extracted from the plant. Mr. Verne discarded wines, syrups, pills and pearls, on account of their inferior action or prompt deterioration, and adopted concentrated drops and an elixir containing the whole of the active principles of the plant, that is, the alkaloid, boldine, and the aromatic matters.

On trying the different samples, he was enabled to establish the fact that the greenest leaves, marked with aromatic and projecting glands, supply the most agreeable, and, above all, the most active preparations, even if the fruit and some of the stems, which hurt in no way the quality of the product, be added to the leaves.

In order to have them in that condition, he obtained them from Chili direct, and had them gathered off the tree before the fruit was completely ripe.

PHYSIOLOGY AND THERAPEUTICS.

After the preceding scientific account, it will not be uninteresting to know at least the conclusions, if not the details, drawn from a large number of experiments made on men and animals.

The most interesting principles of the boldo leaf, aromatic matters and boldine, are eliminated in abundance through the urine. Boldo has influence neither on circulation, the temperature, nor the quantity of urine; but it increases in a perceptible manner the elimination of urea. For that reason it can be placed alongside of coca, which operates on the nutrition in a similar manner.

When this drug is administered in chlorosis, dyspepsia, chloro-anæmic cachexy, during the recovery of a patient from adynamic typhoid fever, or in the debility of various organs, a slight general excitement is observed in the patients; this is followed soon after by an increase of the appetite; the digestive functions work better, and it is not unusual to see those patients get well in a short time; the writer was a witness to these facts at the Hotel-Dieu, Beaujon, etc., Paris. Boldo was administered with success in several cases where cinchona could not be retained on the stomach, and it may be said that in spite of its strong odor, its warm taste, the sick take to it very well. These results demonstate that boldo ought to be classified among the diffusible, nutritive tonics and stimulants of the digestive functions.

The study of its curative properties in liver complaints was commenced in Paris, in 1873, by Gubler and Bourdon, and continued by Doctors Dupony, Hanquelin, Macé, Méli, Touranjon, etc. They confirm the value of boldo in the treatment of hepatitis, chronic hepatitis, hepatic colic, congestion of the liver, and the bilious diathesis.—Translated for the *Druggists Circular*, April, 1883.

Notes on a New Acacia of Northwestern Australia.—For the second volume of the Flora Australiensis 293 species of Acacia were defined; to these were subsequently added 28, partly through pages of this periodical (Chemist and Druggist, 1882, July) as shown in the Systematic Census of Australian Plants issued last year, so that this genus is undisputable known to be by far the largest in Australia, about three-fourths of its species belonging to our part of the globe. Such a vast generic group of plants is therefore to us not only of general interest, but to the pharmaceutical profession of special importance, as various of our Acacias produce mimosa-gum of good quality, superior tan-bark and a fragrant principle of their flowers, which latter awaits still isolation in large vacuum-apparatus or by some other device.

But some of the species are as yet imperfectly known, either their flowers or their fruits not having been collected, and very many of these congeners have still to be further traced over their geographic or regional areas, for which objects much aid might be afforded also by pharmacists, now widely settled in many portions of Australia. To give an idea on what characteristics the limitation of the species mainly depends, the diagnosis of one as expressive of a new kind is now offered.

Acacia praelongata.—Shrubby, glabrous; branchlets not particularly angular; phyllods linear, very much elongated, with a prominent mid-nerve and two faint or imperfect lateral nerves, slightly and obliquely pointed at the summit, provided with a gland at or very near the base; flower-heads small, in simple racemes; bracts consisting of a thin stipe and a rhombiform lamina; sepals five, free, very narrow towards the base, dilated towards the summit; petals disconnected, glabrous, nerveless, about twice as long as the sepals; ovary glabrous; pod flat, narrow-oblong, gradually attenuated into a short stipe, neither twisted nor sinuous nor septate; valves chartaceous; seeds conspicuously compressed, ovate-roundish, not shining, with a very small almost orbicular area on each side; funicle very short, not dilated into any strophiole.

Near Adams's Bay, Hulls; near Port Darwin, Foelsche.

One of the longest phyllodinous of all Acacias, as signified by the specific name.

It differs from A. elongata in not angular branchlets, longer and laxer phyllods, glabrous peduncles, free sepals of different shape, not velvety ovary, broader pod; from A. dentifera in three-nerved also longer and generally narrower phyllods, and as well as A. elongata in neither oblong or strophiolate seeds; from A. Dietrichiae in not clammy branchlets, the development of lateral nerves in the phyllods, narrower sepals and likely also in fruit characters; from A. estrophiolata in much longer and less pointed phyllods with stronger midnerve and with a gland not remote from the base in pedicels of greater length and seeds of doubly larger size without lustre and not of oval form; besides, from all these four species this new one is distinguished in racemes with several or even many flowerheads.

The question has been raised whether really as many Australian Acacias can be distinguished specifically as assumed by Mr. Bentham and myself; but when it is considered that fully two hundred supposed species became suppressed, that hybrids of sterility do not seem to occur, that the dispersion of the species is over all Australia, and that the carpologic characteristics are generally well marked, we may fairly assume the number of retained species not to be overrated, but contrarily in all likelihood yet to be augmented; moreover, other cases of leguminous genera containing a vast number of species are on record. Thus Bentham and Hooker calculated in 1865 the whole number of species of Astragalus as at least five hundred, while Boissier in 1872, after a scrupulous detail elaboration of the Oriental kinds within an area about equal to that of Australia, admitted even 757 species of that genus as tenable.—Baron Ferd. von Mueller, K. C. M. G., M. and Ph. D., F. R. S., in Melbourne *Chemist and Druggist*, August, 1883.

Cascara Sagrada in Constipation.—Cascara sagrada, *Rhamnus purshiana*, is a small tree indigenous to the Pacific coast of North America. The fluid extract I have used is that prepared by Parke, Davis & Co., Detroit, and procurable of their agents, Messrs. Burgoyne, Burbidges & Co., London. Its use, in my hands, seems to be indicated in almost all cases of constipation, particularly in cases of torpidity of the liver, with scanty dry stools and indigestion. It seems to act as a stimulant to the muscular fibres of the intestines, through its action upon the sympathetic nerve, this increasing the vermicular movements of the intestines, thus resembling nux vomica. I have used it in several cases of obstinate constipation with very satisfactory results. I generally give twenty drops three times a day in sweetened water for ten days or a fortnight; and then, gradually reducing this dose, the patient is able to establish a habit of regularity. Given in doses of a teaspoonful, it acts as a gentle purgative, without producing any griping tenesmus or nausea; but its action is slow, and, in this sized dose seems to lose its good property of curing the constipation. With children, with smaller doses, I have had equally good results.—J. Fletcher Horne, F. R. C. S., Edin., in *British Medical Journal*, March 10, 1883.

Kola Nuts.—MM. Heckel and Schlagdenhauffen find that these seeds contain free coffeine in a proportion exceeding that contained in coffee. Besides this they contain theobromine, some fatty matter, much glucose, and a very large porportion of starch. The presence and quantity of these constituents indicate the value these seeds are likely to attain as an article of diet.—*Year Book of Pharmacy.*